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THE BRICKBVILDER

VOLUME XXV APRIL, 1916 NUMBER 4

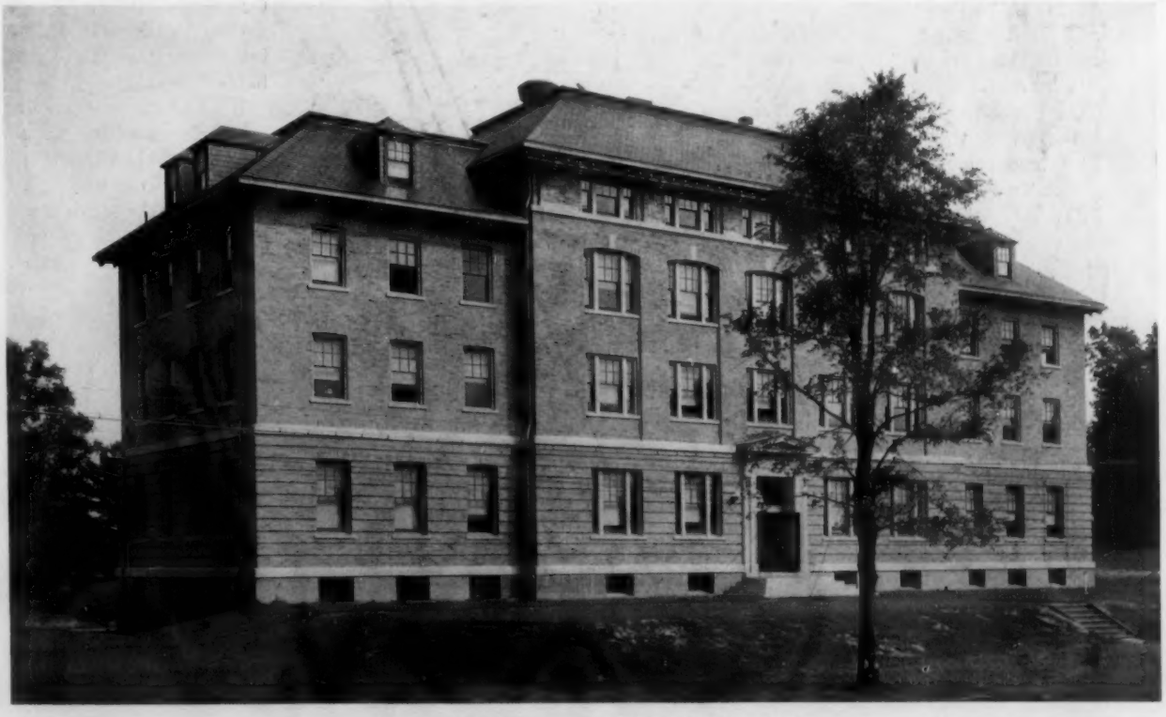
The New Group of Agriculture Buildings at Cornell University.

GREEN & WICKS, ARCHITECTS.

TWELVE years ago, when the scientific study of agriculture was in its infancy, the State of New York established, in connection with Cornell University, Colleges of Agriculture and Veterinary Sciences. In the years following there has been increasing recognition given to the value of agricultural training particularly; and it is only a logical outcome that this should be so, because agricultural education, correlated with study in the shop and laboratory, provides preparation for a place in the great constructive and productive industries which are now assuming the economic position in the development of this country that they deserve. The State of New York has continued to promote active interest in the study of agriculture, through financial aid, offered to county and public schools that would inaugurate agricultural courses. Its concerted effort, however, has been directed toward the development of the College at Cornell, till in this institution there is represented the collective knowledge and experience of educators who have specialized in laying the foundation and perfecting the details of this branch of education which develops vocational interest into personal efficiency.

The growth of the College has been so great during the past six years that recently there have been eight new buildings constructed in addition to extensive alterations to the original buildings, and still another large building for plant study exclusively is contemplated. The original group of agricultural buildings is located on a knoll overlooking a wide expanse of field stretching into surrounding hills. A good deal of this open area has been reserved for athletic purposes, since it lies between the University Stadium and the Drill Hall. Because of their location, therefore, the Agricultural Buildings have come to command a very important position in the complete university group.

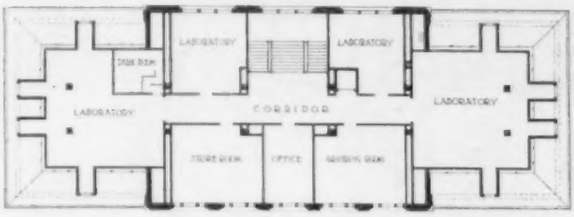
The entire property of the university has been plotted



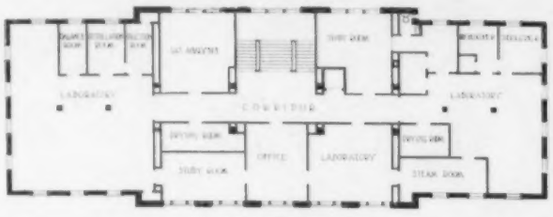
Agronomy Building, Cornell University, Ithaca, N. Y.
Green & Wicks, Architects

and the positions of all projected buildings have been carefully determined so that in the future development of the agricultural school no haphazard results will occur. Up to the present time there has been no effort made to complete the layout of the land in the vicinity of the new buildings because of the necessity for placing all emphasis on the construction and equipment of the buildings, in order to meet the immediate demands of the school. Plans are, however, now in process for grading and planting which will insure the buildings a proper and beautiful setting.

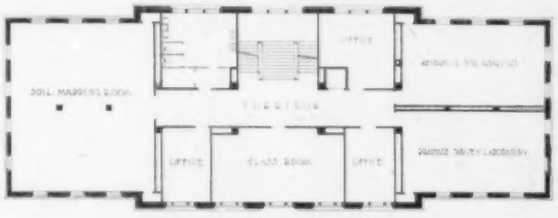
The original group of buildings was designed by the state architect and they were built of yellow hard burnt brick with Indiana limestone trim. In the new buildings, which have been designed by Green & Wicks, aided by Professors Martin, Hebrard and Young of the College, on the Home Economics and Poultry Husbandry Buildings, a yellow rough textured brick, in general lighter in color than that of the early work but varying in shade, was selected for the exterior walls and the same limestone trim used. The architects in designing the various new buildings followed as far as practicable the style adopted in the old group so that there would not be too great a variation among the buildings of the completed group.



Attic Floor Plan

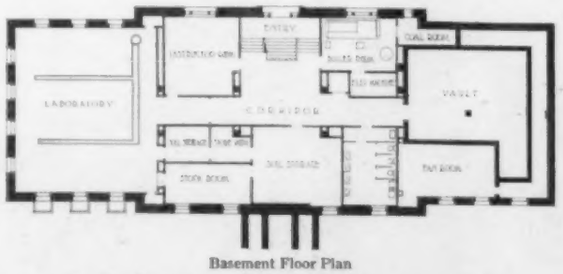


Third Floor Plan



Second Floor Plan

First Floor Plan



Basement Floor Plan

Agronomy Building, Cornell University, Ithaca, N. Y.

The state appropriation for the construction of the buildings was not large enough to provide funds for the erection of monumental structures of great beauty; monumental effect, therefore, had to give way to the primary consideration of providing substantial, fireproof, and practical school buildings. A definite architectural quality has nevertheless been given each of the buildings through careful study of the proportion of window openings to wall surfaces, general mass and contour, and a fortunate choice in color and texture of the constructive materials. The paucity of appropriations with which to carry out the design of important buildings is a condition with which the architect is very often confronted, and in meeting it the ingenuity of the designer is taxed to provide means of creating an architectural scheme which will indicate to as great a degree as possible the importance and dignity of the structures and at the same time bring the cost within the stipulated figures. In the case of prominent buildings which represent the State, it is unfortunate that a larger view of the importance of constructing them with the best architectural character possible cannot obtain to a greater extent.

All the buildings have brick exterior walls, steel framing, tile partitions and floor arches, concrete floors, slate roofs, and stairs. The interior finish in all cases has been carried out in as simple a manner as possible with plain plaster painted walls and plain wood trim. They are heated by a central heating plant, only half of which is now constructed. The supply pipes are brought to the different buildings underground in tile conduits having frequent concrete manholes.

Each of the buildings has been designed to provide space and equipment for the study of a definite branch of the agricultural profession. They are each equipped with laboratories and special rooms for the study of the various sciences.

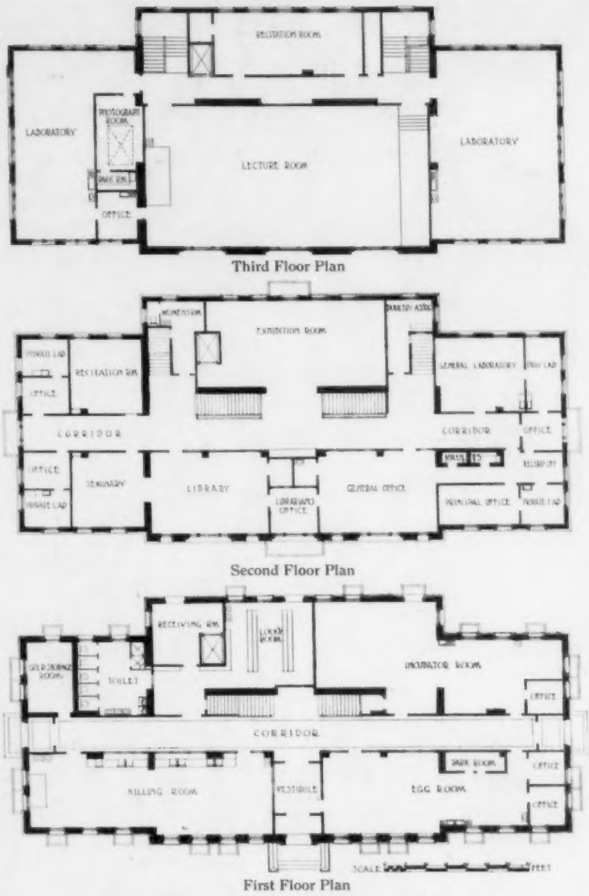
A list of the buildings, with their costs, is given below:

	Per sq. ft.	Per cu. ft.	Total.
Forestry Building	$11.35	$ .25	$86,208.00
Agronomy Building	11.25	.25	90,000.00
Poultry Husbandry Building	12.18	.22½	88,001.85
Headquarters Building	11.50	.20½	90,982.00
Home Economics Building	11.00	.23½	133,856.75
Stock Judging Building	2.35	.08½	27,796.00
Central Heating Building	----	----	50,898.00
Auditorium and Laboratories Building	6.25	.11	132,500.00
Clinic and Hospital Building of the College of Veterinary Sciences	10.00	.16	140,544.50

The Auditorium and Laboratories Building of the College of Agriculture group and the Clinic and Hospital

Building of the College of Veterinary Sciences entailed special consideration in planning and perhaps deserve particular mention.

In building the Auditorium it was the intention that it would not only furnish accommodation for large gatherings of farmers and agricultural students, who congregate for special lectures, but also for the general use of the University at large. The building is built on the plan of a Greek hemi-cycle. It has a seating capacity of approximately 2,500 people, with a small gallery located over the corridor but not extending over the seats on the main floor. A row of columns circle the auditorium reaching from the balcony to the roof, which create with the height an imposing interior. A wide corridor extends around the main floor from which radiate aisles to the seats; opposite each aisle there is a direct exit from the corridor to the exterior portico, so that the hall can be quickly emptied or filled. This is a very important requirement in a university hall where it is necessary to have a great many audiences during the day, and besides being a practical arrangement, the spectator is furnished an impressive sight in seeing the hall filled quickly through these various entrances.



Third Floor Plan

Second Floor Plan

First Floor Plan

Poultry Husbandry Building, Cornell University

In the basement all the available space outside of that required for housing the ventilating system has been given over to laboratories which may be entered independently of the auditorium from the rear of the building where the grade is lower than at the main entrance. The building commands an important position among the others of the group because of its size and scale, and the imposing effect which the style of architecture adopted lends to the façade. A special interest has been given to

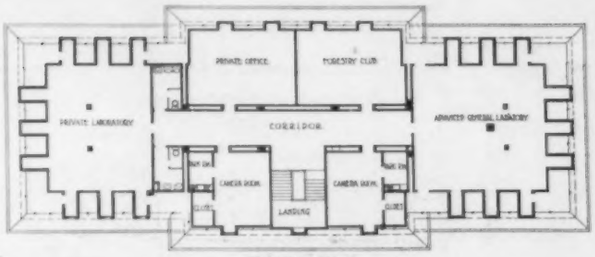
Poultry Husbandry Building, Cornell University, Ithaca, N. Y.

Professors Martin, Hebrard and Young, Architects. Green & Wicks, Supervising Architects

the circular arcade by means of the open timbered roof and the frieze above the columns, which has a pierced ornamental pattern, the detail of which is repeated in the copper *cheneau* on the roof.

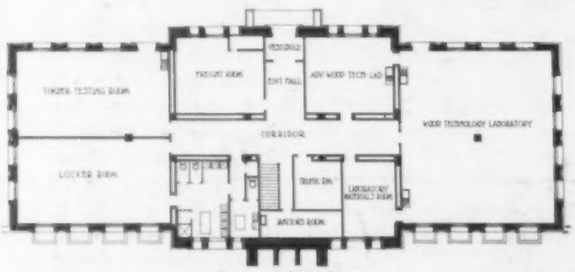
The Clinic and Hospital Building was built for the use of the State Veterinary College in the study of the diseases of animals. It is situated in close proximity to the main agricultural group, and although of a slightly different style of architecture, it harmonizes with the latter because the constructive materials are the same in all the buildings. The plot on which it is built slopes to the rear, so that it was possible to have entrances on two levels. This fact also determined to a large degree the uses of the various floors. Thus the ground floor, entered at the lower grade, contains stalls for the housing of horses and operating rooms for the larger animals. The ambulatory stable is also located on this floor. The next floor is given over to the lecture room, laboratories, and experimental rooms in addition to a second ward for horses which is reached from the lower floor by a large elevator. The upper floor contains further laboratories and lecture rooms, besides living apartments for the hospital attendants.

The remaining buildings of the group — including the Headquarters Building, containing the general office, lecture rooms, and laboratories; the Forestry Building, having, in addition to testing rooms and laboratories, a museum; the Poultry Husbandry Building, devoted to the study of raising fowls

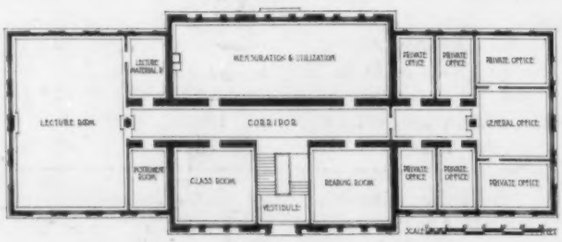


Attic Floor Plan

Second Floor Plan



Basement Floor Plan



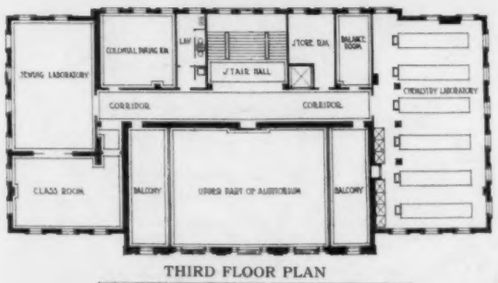
First Floor Plan

Forestry Building, Cornell University, Ithaca, N. Y.

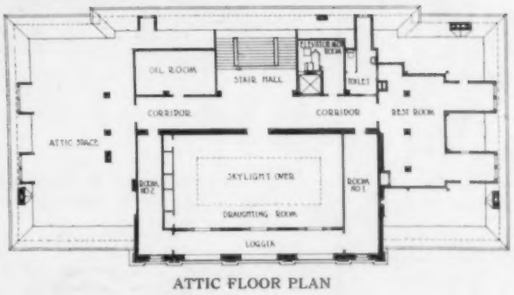
Forestry Building, Cornell University, Ithaca, N. Y.

Green & Wicks, Architects

GENERAL VIEW OF ENTRANCE FRONT



THIRD FLOOR PLAN



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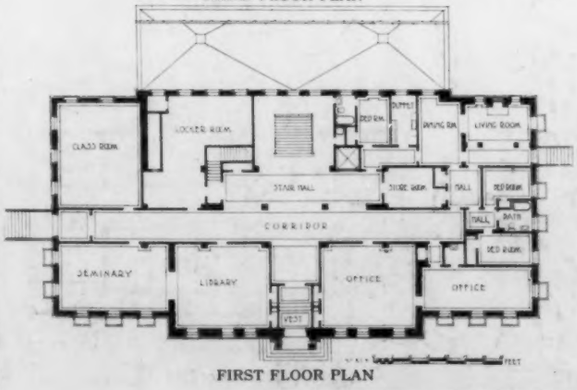
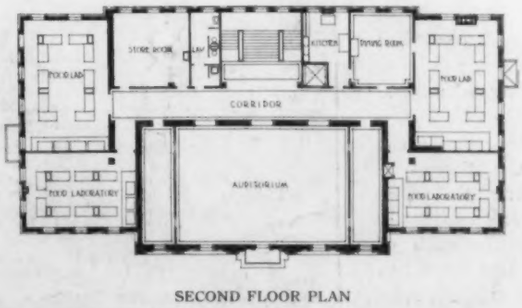


FIRST FLOOR PLAN



SECOND FLOOR PLAN

HOME ECONOMICS BUILDING, CORNELL UNIVERSITY, ITHACA, N. Y.

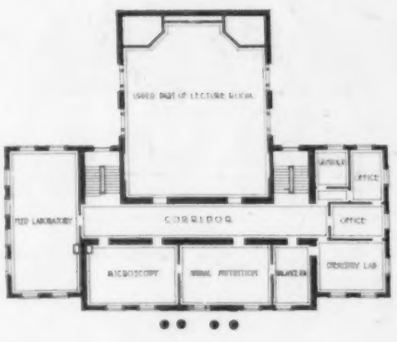
PROFESSORS MARTIN, HEBRARD AND YOUNG, ARCHITECTS. GREEN & WICKS, SUPERVISING ARCHITECTS

Headquarters Building, Cornell University, Ithaca, N. Y.
Green & Wicks, Architects

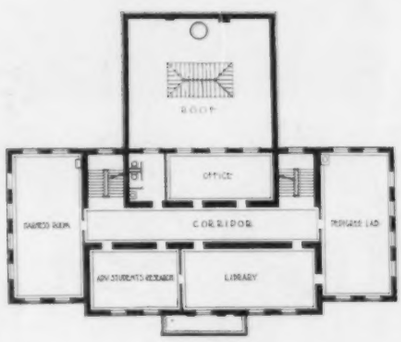
and preparing them for market; the Agronomy Building, given over to the scientific study of economic value and distribution of land, and the Home Economics Building, in which the study of food is carried on — were designed primarily to provide buildings to house the students engaged in these various sciences in such a manner that study could be carried on with the largest efficiency. In the Home Economics Building the greater portion of the basement is occupied by a large lunch room, adjacent to which is a kitchen and a bakery. There is sufficient accommodation in the lunch room for meeting the demands of the entire body of students connected with the agricultural course. The fact that this portion of the basement is above grade provides good natural lighting by means of large glass areas in the three exterior walls.

All available space in each of the buildings has been utilized, even to the extent of that in the attic stories which, in most of the buildings, have been given over to private laboratories for research work. They are sufficiently lighted by as many dormer windows as could be incorporated without destroying the unity of the façades of the buildings, and, in addition, each laboratory has large skylights.

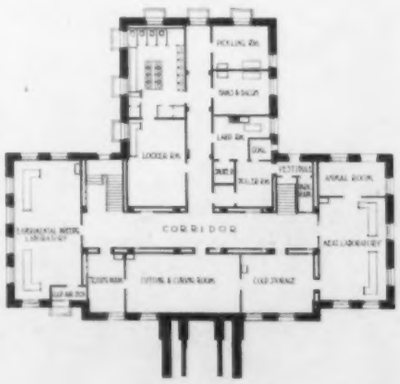
While the buildings are approximately of the same size, and similar in general plan, a good deal of ingenuity has been expended in diversifying the treatment of the façades to make each individual. Though the buildings represent the greatest size and best construction that could be obtained with the appropriation at the disposal of the architects, architectural effectiveness has not been unduly sacrificed, and as a complete group, housing an institution devoted to the study of a utilitarian science, they may be considered a successful solution of a most intricate problem from both architectural and educational standpoints.



Second Floor Plan



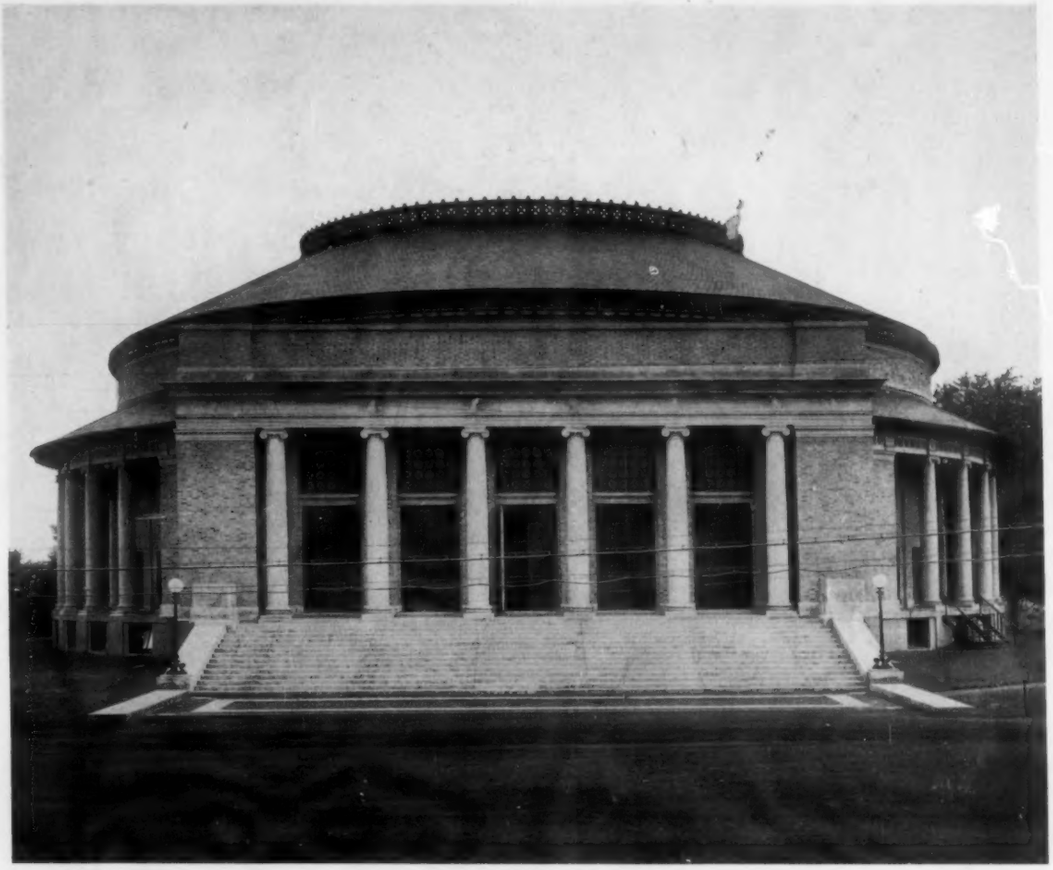
Third Floor Plan



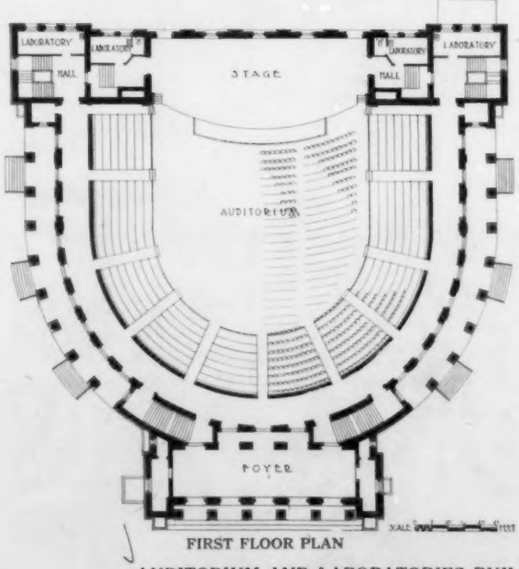
Basement Floor Plan

First Floor Plan

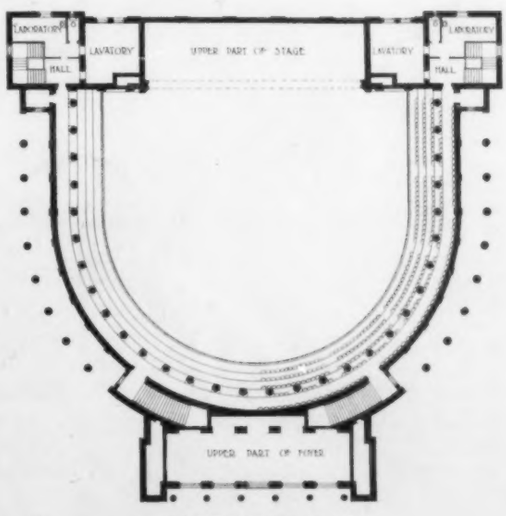
Headquarters Building, Cornell University, Ithaca, N. Y.



ENTRANCE FRONT



FIRST FLOOR PLAN

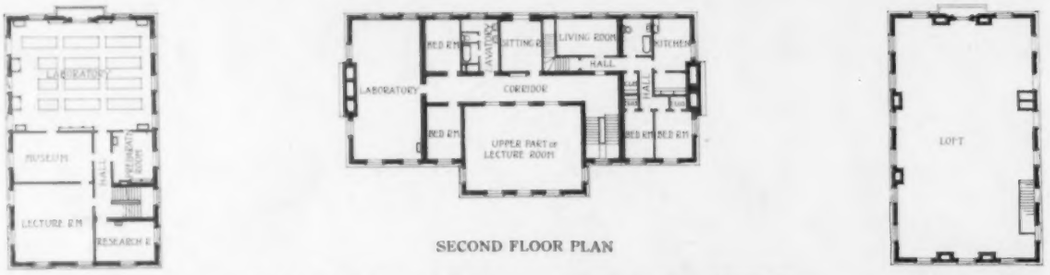


BALCONY FLOOR PLAN

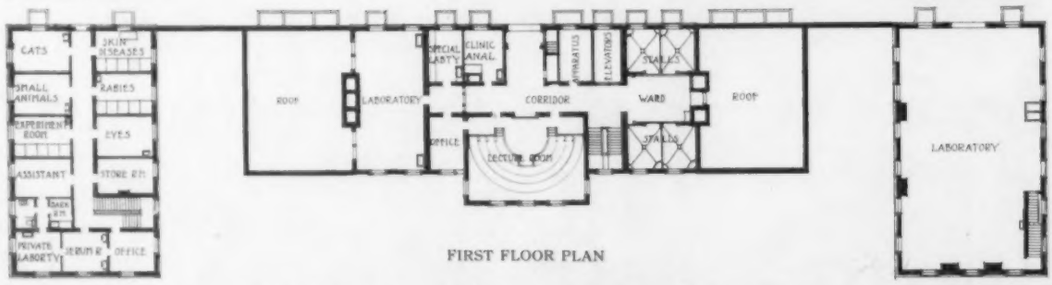
AUDITORIUM AND LABORATORIES BUILDING, CORNELL UNIVERSITY, ITHACA, N. Y.

GREEN & WICKS, ARCHITECTS

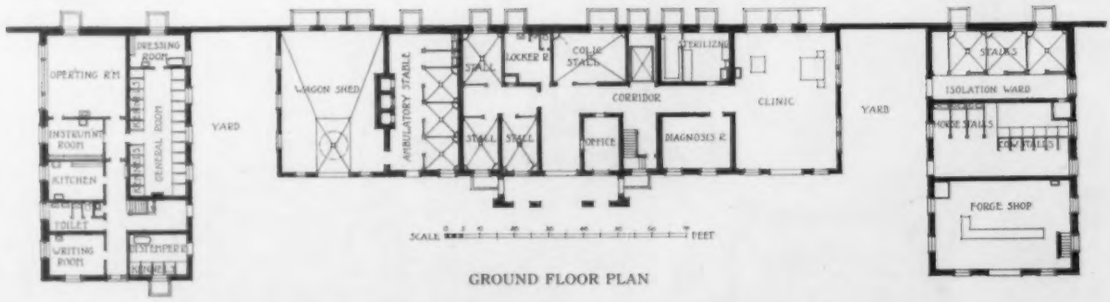
GENERAL VIEW FROM UPPER GRADE



SECOND FLOOR PLAN



FIRST FLOOR PLAN



GROUND FLOOR PLAN

CLINIC AND HOSPITAL BUILDING
NEW YORK STATE VETERINARY COLLEGE, CORNELL UNIVERSITY, ITHACA, N. Y.
GREEN & WICKS, ARCHITECTS

Stock Judging Pavilion at University of Illinois.

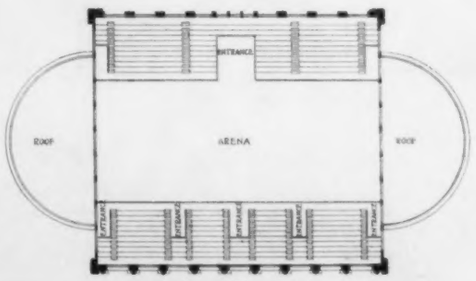
W. CARBYS ZIMMERMAN, ARCHITECT.

THIS building was erected at the University of Illinois, Champaign, Ill., for the purpose, as its name implies, of judging and studying stock, and comes within the scope of the Agricultural College.

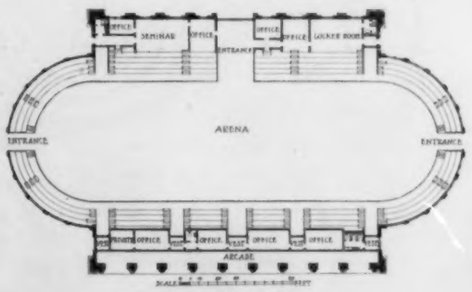
As the judging of stock carries with it the inspection and observation of animals while in action, it was essential to have a certain distance of travel, and an arena of such shape as to make this travel reasonably continuous. An oval arena would not entirely answer this purpose, as it is necessary, for certain purposes, to have a continuous straight course. This requirement accounts for the rectangular shape of the arena, with the semicircular wings. This plan, incidentally, has proven very desirable, from the view-point of economical administration, because it readily lends itself to the subdivision of space, which permits the use of separate parts of the building for different purposes at the same time. Thus the two semicircular wings are easily cut off from the main body of the arena by curtains, enabling them to be used as class rooms where an animal at rest may be studied close at hand by the students; the rectangular space, at the same time, being in use for the general examination of stock by students and others.

The sight lines of a building of this character are, of course, all important, and in determining them great care was taken to be certain that the entire animal, including foot action, would be visible from every seat in the building.

Natural lighting is another essential requirement, and this has been provided for by the use of skylights and large glass surfaces in each end of the building over the semicircular wings and on the sides above the balcony.



Balcony Floor Plan



Main Floor Plan

The building forms part of a quadrangle on the campus of the University about which are grouped the other buildings devoted to agriculture and allied branches of instruction. A well defined plan for the future development of the University campus has been adopted to insure a homogeneous and well arranged group when all the buildings will have been completed. The plan embraces not only recommendations for the placing of the various contemplated buildings, but also in a general way defines their architectural treatment. This fact was accordingly of much influence in determining the exterior style of the structure.

DETAIL OF ARCADE

GENERAL VIEW OF INTERIOR

STOCK JUDGING PAVILION, UNIVERSITY OF ILLINOIS, CHAMPAIGN, ILL.

W. CARBYS ZIMMERMAN, ARCHITECT

Diagrammatic Progress Schedules.

PART IV. (Concluding Paper.)

By CHARLES A. WHITTEMORE.

WITH the exception of the owner, the architect is probably more vitally interested in the satisfactory progress and consummation of the building than any of the other persons engaged in or employed upon the work. With him begins the development of the conception of the building; on his ability to arrange the plan in a concise, coherent, utilitarian arrangement depends the value of the investment for the owners; and his artistic ability in designing an attractive exterior, interesting interior, and pleasing details not only enhances the value of the building by virtue of its advertising, but also classifies the structure as an adornment to the city in which it is erected. The architect in a large measure is known by his work and gets full credit for all of the good things about the building which the average layman sees, in addition to some slight appreciation on the part of other architects whose discernment is a trifle more keen than that of the average real estate owner or tenant. On the other hand, the architect also gets blamed — and the full measure of blame, sometimes unjustly — for everything in connection with the building which seems to be in the nature of a delay, of an error, an oversight, or of poor workmanship or material. It is unfortunately true that the profession is subjected to more unjust criticism than any other profession possible to call to mind.

The reason for this is also sufficiently obvious, although in presenting the reason the defense of the architect is at the same time presented. Owners and real estate men look to the architect to produce miracles, to do the impossible in the nature of changing entirely the characteristics of contractors, and to work wonders with their pocketbook in the nature of returns on the investment.

The number of times that the architect is called upon to answer the question — what is the architect for? — are legion. Many owners and real estate men think that the architect is engaged primarily to pry from an unwilling contractor value beyond that for which they are paying, to pry from him concessions in payments after contracts are completed, or to worm out of him, by some magical process, workmanship which is beyond the limits of his ability. Why this should be so is a mystery. The same people who would use architects and the architectural profession in such a manner would no more think of conducting other parts of their own business in a similar way than they would think of giving the architect the commendation he deserves after having done the things they desired. Rather than express their appreciation of the way the work has been carried along, they even attempt to pry from the architect a small percentage of his commission in the nature of a concession rather than pay him his commission in full.

Fortunately this is true of a relatively small proportion of the real estate operators, and this percentage is diminishing year by year. The emphasis is laid on this particular phase of the architect's profession in order to more clearly crystallize the idea that it is essential for an architect to be continually on his guard in a systematic manner to prevent causes for criticism on his own part, and also to bring together the various elements in the building construction in so thorough, complete, and harmonious a manner that upon the completion of the building there may be no occasions for embarrassing questions or explanations, and both contractor and owner may feel fully satisfied with the execution of the work.

There is no one agent able to effect this for the architect to a greater degree than a competent office system. From the standpoint of system there are two kinds of architects: one who is so buried beneath a load of so-called system that he has become its servant; the other who operates without any real system whatever except a collection of various mechanical devices which he nominally calls a system, but which are of little or no value to him beyond the nature of filing away memoranda.

It is surprising to find, upon examination, how little actual systematic effort is put forth in connection with many architects' offices. A filing device for letters, a book or card system for bookkeeping, and some sort of a catalogue for drawings and advertisements is the extent of the average office equipment, and so long as it serves its purpose it is quite sufficient. A diagrammatic progress schedule, however, is, and can be demonstrated to be, of such inestimable value that it is difficult to see how architects can satisfactorily conduct their work without something which closely approximates the results of a progress schedule, if a schedule itself is not used.

It would be obviously of no permanent value to any architect to so cumber his office and his work with systematic efforts along various lines that his office force had little time for anything else. On the other hand, it is of great value to have a simple record which can be kept without materially increasing the duties of any one in connection with the office; a record which gives a complete history of every building from the day the contract starts until it is completed; and a record which can readily be filed away for future reference.

Possibly the reason why architects, as a rule, hesitate to adopt anything which seems in the line of business system, is due to the fact that the idea seems to be prevalent that anything in the nature of a systematic business conduct for the office work produces an atmosphere which is not conducive to good imaginative work along artistic lines and makes the office assume the character of a factory where plans are in the process of being ground out. This might readily be true to a certain extent, particularly if time clocks and factory rules of various kinds were introduced and all of the work in the office was conducted along the same lines; but every architect's office can be thoroughly equipped with efficient, systematic devices which do not consume time to operate, but which keep the architect's office records complete and up to the minute.

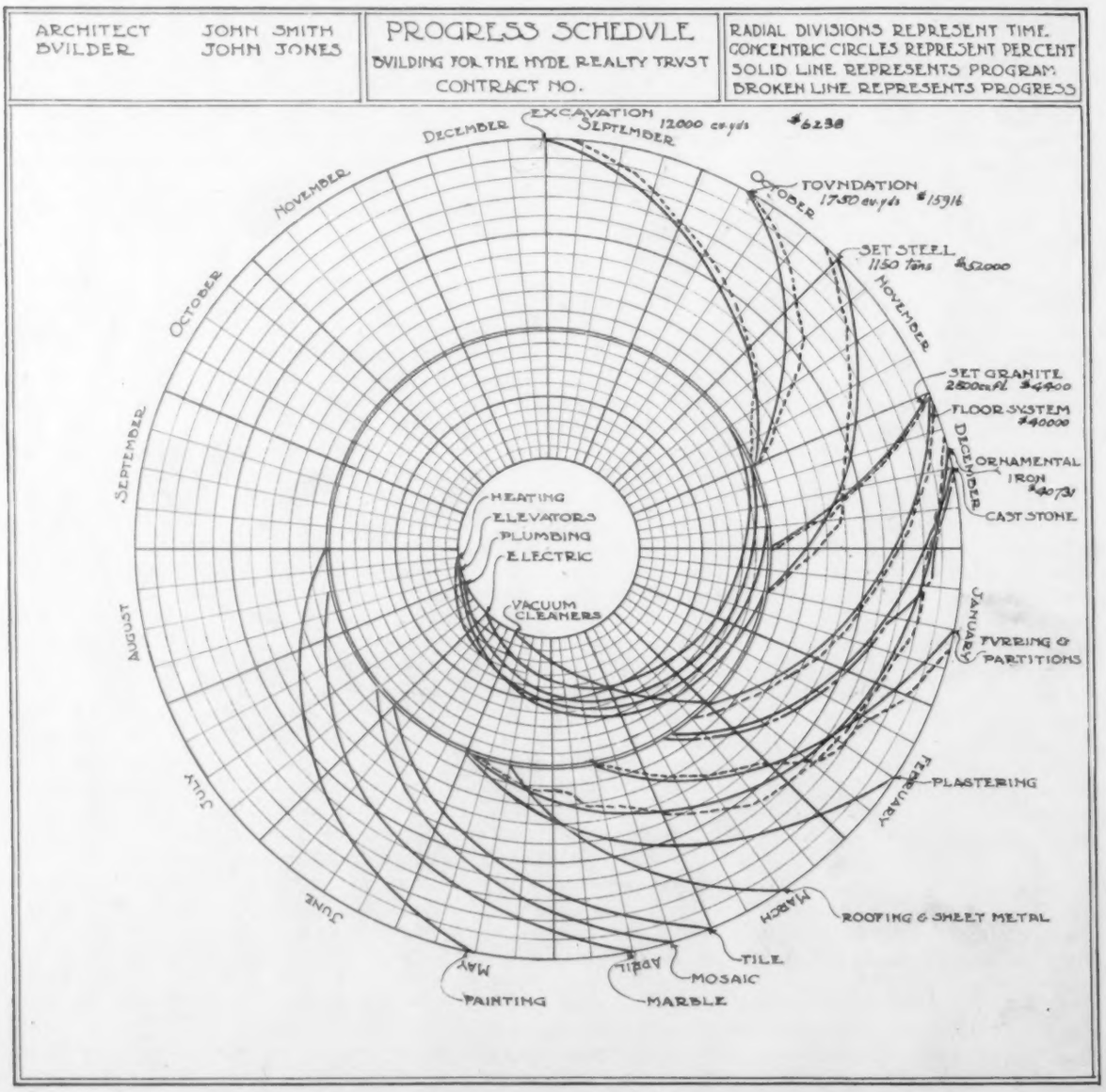
In presenting the diagrammatic progress schedules

which have been illustrated, it has not been the idea that those schedules present the last word in the solution of the problem. The only thought is that those types which have previously been illustrated are types which have been of proven value and are not in the nature of experiments.

The illustration accompanying this article shows a type of progress schedule which in many points is far superior to the other types previously illustrated, and an analysis of the schedule and its operation may bring out some features which might otherwise be overlooked.

In the first place, the form of the program lines being curved is an advantage over the straight lines of the other schedules. When the straight lines are used to indicate the program and also the progress, it is more difficult to detect slight variations between these lines. This is an important fact, as the value of the schedule to check progress depends on the facility with which these variations may be noted. The divergence of the two sets of lines indicates either a tendency toward a future delay or an acceleration in the completion of the particular portion of the contract to which these lines refer. The delay must be corrected at the earliest possible moment, or other parts of the work must be "speeded up" to have the whole contract completed on time. On the other hand, it is important that any acceleration be noted as early as possible so that arrangements may be made for the other portions of the work which are dependent upon or related to the part under consideration.

It is wrong to assume that every contract is either finished "on time" or delayed. It is equally incorrect to assume that once a contract is executed, the possibility of completion before the specified time is remote. Archi-



Type of Progress Schedule Designed to Detect Slight Variations Between Program and Progress

tects and contractors can point with pardonable pride to many cases in which the completed building has been delivered to the owners in advance of the expected completion. This condition is of great value to the owner in that it lessens his carrying charges and increases his income. A recently completed contract illustrates this point. The building in question was to have been delivered to the owners on January 1. By fortuitous circumstances the work was finished sufficiently in advance of this date so that the tenants took possession on the 1st of November. This gave the owners two months' rent on which they had not counted. The progress schedule records such conditions in such a manner that the advanced completion date may be predicted sufficiently early for the owner to make revised dates of occupancy for his tenants.

A comparison of the schedule herewith illustrated, with some of the schedules previously given, will illustrate the difference in the functions of the straight and curved lines which has been described above. It will also present other features by which the merits of the two types may be judged.

The type under consideration here also has the advantage of its predetermined size. In arranging a schedule it is always advisable to provide for unforeseen contingencies which may affect the date of completion, and this can best be done by allowing extra spaces for time to be consumed in case of a delay. It is not extremely difficult to form a reasonably accurate opinion as to the allowance to be made for this contingency. The state of the market, freight conditions, labor requirements, and past record of the contractor all enter into this consideration and, except for such extraordinary events as those that occurred in the fall of 1914, will determine with a fair degree of accuracy the necessary extensions to the contract date. These extensions may not be required, but in a progress schedule of this type they must be provided for in making the divisions.

It is a decided advantage to have all the schedules which are being kept at one time of the same size. This is not alone for convenience in filing, but also for the added simplicity in recording events. Having determined the size of the record sheets, a printed form may be used on which the circles are indicated, the radial divisions being determined for each special case. It would not be impossible to provide two standard forms which would be complete ready for the information pertaining to each contract: one could be arranged with, say, eight radial divisions, and one with fifteen. The majority of contracts would probably fall within these limits, and any contracts for which these would not serve would be treated as special cases.

The schedule illustrated consists of two distinct records, separated by the double heavy line. The outer circles are for the subdivisions of the general contract and the inner set of circles for those contracts which may be awarded independently of the general contractor. The schedule shows the contracts which are usually awarded separately; but the record could be maintained in this same manner even though the contracts were all under the one contractor. In some cases the progress has been noted on the reproduced schedule, in order to show more clearly the working of the device. It would be of a distinct advantage to have the progress and program in different colors. This would make the record more clear in all parts, but more especially in those portions where the contracts are similar in time of commencement and in duration. For example, the "Heating" record of progress could be carried out in blue, the "Plumbing" in red, the "Electric" in green, and these same colors could be used for other divisions where the conflict in line would not be confusing. If colors are used, a line of the same color drawn under the name denoting the division would be of great help in reading the record.

In connection with the name of the subcontracts, as will be noted in the illustration, are two sets of figures: the first refers to the quantities, and the second to the estimated value of these items. This feature is a great aid to the architect's superintendent who checks the monthly requisitions of the contractor. A glance at the progress record shows the proportion of the work completed during the month for which payment is asked and at the same time the proportionate amount due. It also enables the bookkeeper, or whoever issues the certificates for payment, to do all the preliminary work without any consultation except a study of the schedule.

The value of this record in proportioning payments is sufficient in itself to warrant any office in adding the schedule to its system. There are, however, two other conditions under which this record may prove to be almost indispensable. In the first place, the schedule affords the architect a comparison between buildings erected, buildings in process of construction, and projected buildings. In making a preliminary estimate for an owner the architect need only refer to a completed record and a "going" record of a similar structure to be able to give a very close estimate of the probable cost. He can also check the cube price as well as the quantity price of any particular part of the contract.

If the approximate cost of buildings could be based upon information as accurate as that supplied by the schedules used in this manner, the average owner would undoubtedly be obliged to change his opinion of the architect's estimates. Who has not heard an owner say, "That is the architect's estimate; you must add ten per cent to that," or words to that effect?

A second condition which proves the value of the progress schedule is found when a contractor is compelled to relinquish his contract and have the work completed by another. This occasion does not frequently arise, but having arisen may be a source of embarrassment to the architect who is not prepared for it. It will be obvious upon examination of the schedule that the architect and owner have in their hands the contractor's own estimate of the value of the contracts under his control at any time during the construction period. If the schedules are signed monthly by the contractor, or if he accepts his payments as based on the schedule record of work done, the opportunity for disagreement as to an equitable settlement, in case another contractor is called in to complete the work, is minimized. It will also be noted that the requisitions as based on the schedule always automatically reserve the estimated cost to complete the work from that date.

It would be possible to further analyze the value of these schedules and to point out other phases which might be of great assistance to the users. Each one who adopts a

record of this kind can readily develop features which may meet his particular requirements to better advantage than some of those already noted, and it is in just such a manner that a device can best prove its worth. Some might find that an entirely different form or arrangement would be more suitable to their needs. The underlying principle would, however, be alike in all cases and the value would be present whatever the method of keeping the record might be. The types illustrated have already been in use and have demonstrated that they represent a more compact and simplified form of report than those which they have superseded.

If the architect and the contractor agree upon keeping a progress schedule, they will both find it a great convenience to have the contractor send a blueprint of his schedule to the architect at the same time that he sends in the monthly requisition. The architect then may consult his record and any differences may be then adjusted. This saves future settlements of questions which are best settled when the events are fresh in each mind. The architect in sending the owner the certificate for payment, sends also a copy of his progress schedule. The owner can readily follow the progress of the work and know that each copy of the record as presented to him has been certified by both contractor and architect. He may thus be entirely free from the anxiety caused by lack of accord between the contractor and architect and feel that the contract is being executed properly and that his interests are properly safeguarded.

In cases where this progress schedule has been maintained and reports made to the owner as indicated above, the owners have found it to be of great assistance. In comparison with the method usually maintained by architects in keeping records of the progress of their work, the progress schedule stands very high, and any architect who maintains one, would find this to be a fact upon trial.

A great many of the architects' offices confine themselves in the nature of progress reports to a report which embraces weather conditions, number of men on the work, the character of the progress of the work — whether the work is being pushed rapidly or going along slowly. These reports are sometimes rendered daily and sometimes weekly. Where a progress report is made, however, the superintendent, after daily or regular visits to the building, dictates his reports on the condition of the building as outlined above and then every week, or more often, if desired, carries out the progress of the building on this schedule. This requires but very little additional time and is well worth the extra effort.

Those in connection with the office who do not regularly visit the building can, by reference to this progress schedule, familiarize themselves much better with the actual status of the work than from a perusal of the written reports, and this fact has already been demonstrated by the use of the schedules.

There is one phase of an architect's work to which the progress schedule is of great value which has not been presented for consideration, and that is when work is being done under the architect's direct supervision at a considerable distance from his home office.

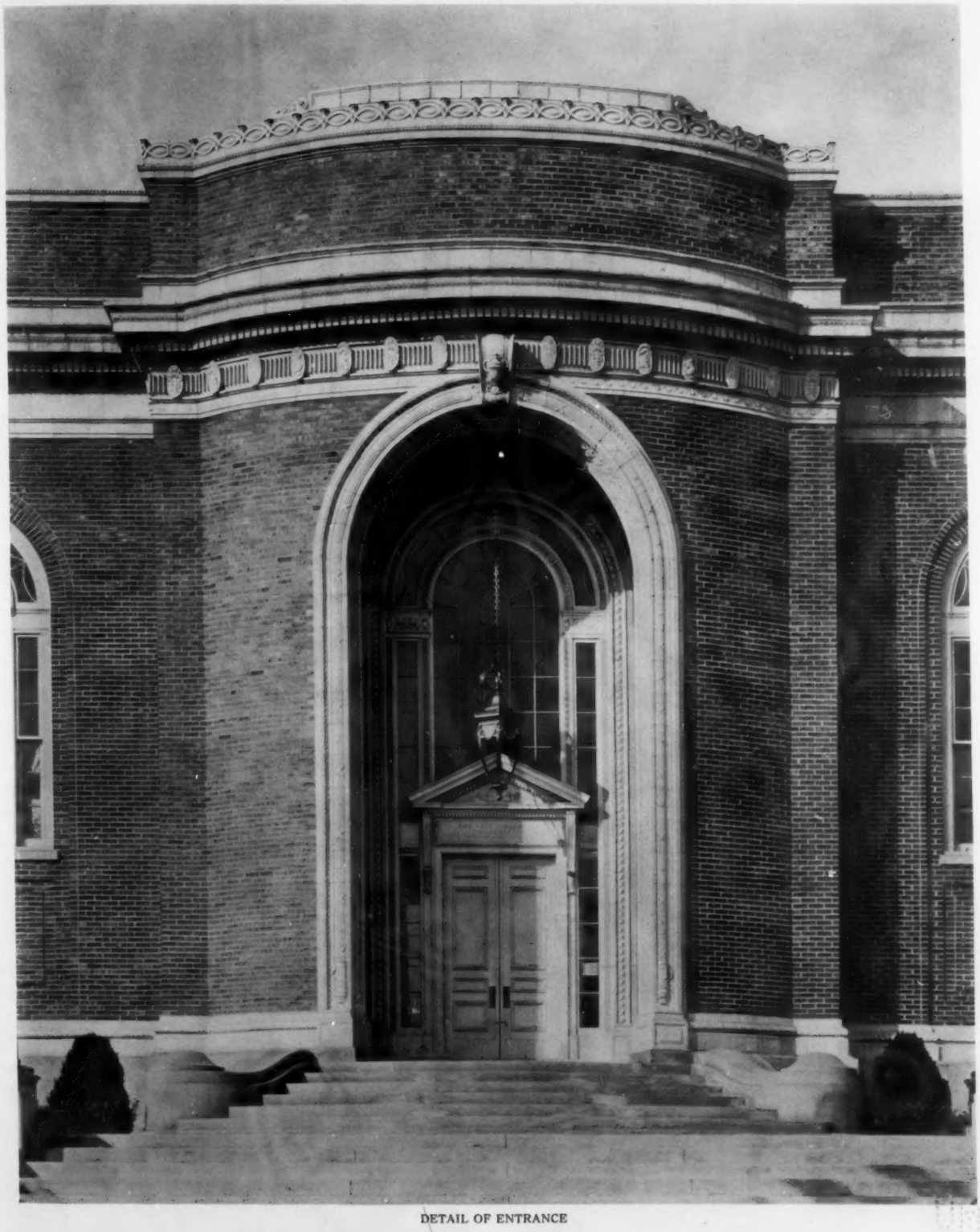
Many architects under these conditions prefer to have a local representative either from their own office, who makes his home temporarily in the city in which the work is being done, having complete charge of the work, or in the person of a local architect of reputable standing to whom a commission is paid for his superintendence. In either case it is obvious that the principal difficulty of the architect is in keeping himself thoroughly informed as to just what is going on at the building in his absence. His own personal visits to the building obviously cannot be as frequent as if the work were close at hand and in order; therefore, to satisfy himself as to just exactly what is being done, he must depend on some form of report from his local representative. In cases where the progress schedule is not employed, this becomes either a letter or a report similar to the reports made by the daily visits.

A progress report, however, would mean more and would present more facts regarding the actual condition of the building to the architect than any other form of report which can be maintained at so little expense and trouble. The architect may be interested in questions of contract and questions of interpretation of drawings and in questions of instructions to the various contractors, but these in the majority of cases can be handled perfectly well by the local representative. The architect, however, is vitally interested in the records of the respective parts of the work and can feel as thoroughly conversant with the conditions of the building after having reviewed his progress schedule as though his own personal visits were made far more frequently. In addition to this he can lay out the specific points of the work which he cares more particularly about informing himself, at his next visit, by a consultation with the progress schedule.

The objection undoubtedly has already occurred to those who have considered the progress schedule but have not adopted it; that it would be difficult to arrange with the contractors and the sub-contractors to adopt a system of this kind. This is true to a certain extent and still it would be surprising to those who have never investigated it, to find how many of the better class of contractors at the present time are maintaining a progress schedule of their own without reference to the reporting of the progress to the architect.

It was as difficult to get contractors to use concrete mixing machines when they were first placed upon the market; it was as difficult to have the contractors intelligently use steel construction when this first became a feature of modern buildings; and it was as difficult to have contractors adopt any method different from that which they have become accustomed to through use and tradition as it would be to have them adopt this progress schedule, and probably the difficulties would be no greater. Certainly the value which the contractor would place upon the progress schedule after a sufficient use of this system for him to become thoroughly familiar with its advantages would be as great an aid to modern building as some of the different types of construction which are now used, have been over those previously employed.

In previous articles the value of the progress schedule has been noted as applied to the use of the contractor, to the use of the sub-contractor, and for the benefit of the owner. It seems obvious to those who have used this schedule that it is of even greater value to the architects than to the others who are interested in the building, and undoubtedly a further use of the progress schedule will develop benefits which as yet have not been discovered.



DETAIL OF ENTRANCE

HADDINGTON BRANCH, THE FREE LIBRARY OF PHILADELPHIA, PHILADELPHIA, PA.

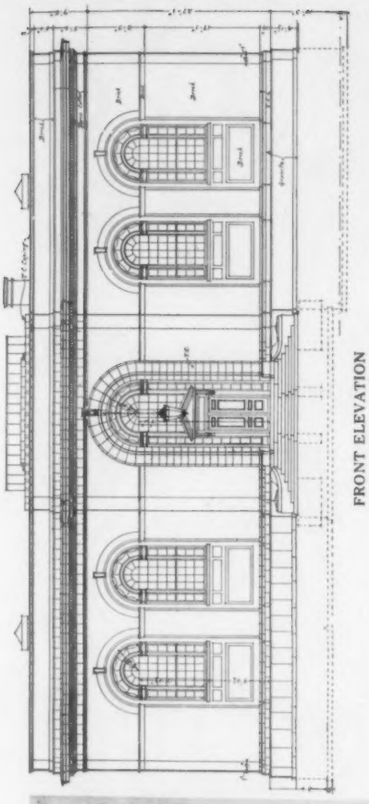
ALBERT KELSEY, ARCHITECT

FRONT ELEVATION

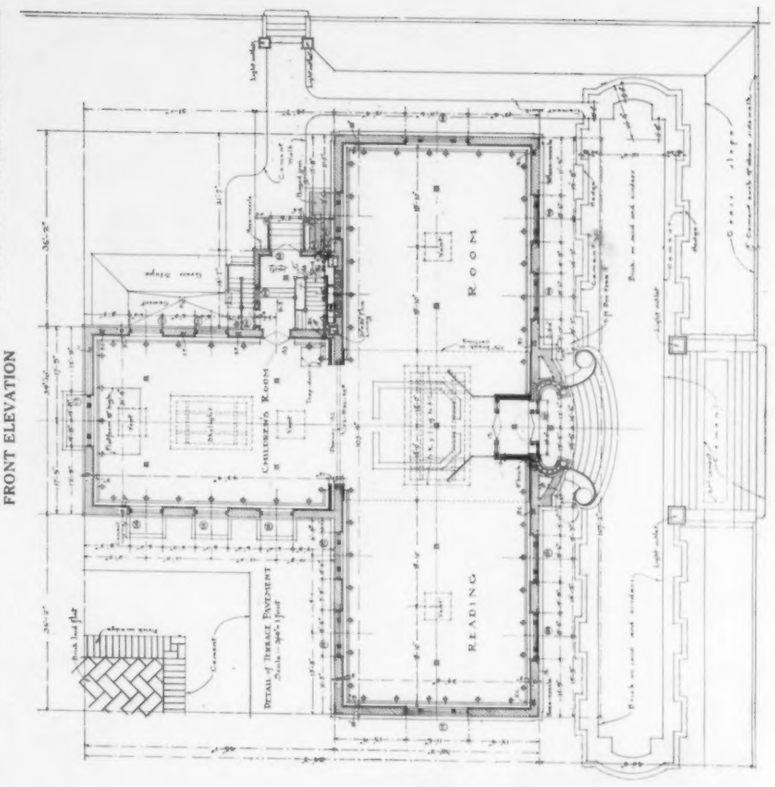
INTERIOR LOOKING TOWARD CHILDREN'S ROOM

HADDINGTON BRANCH, THE FREE LIBRARY OF PHILADELPHIA, PHILADELPHIA, PA.

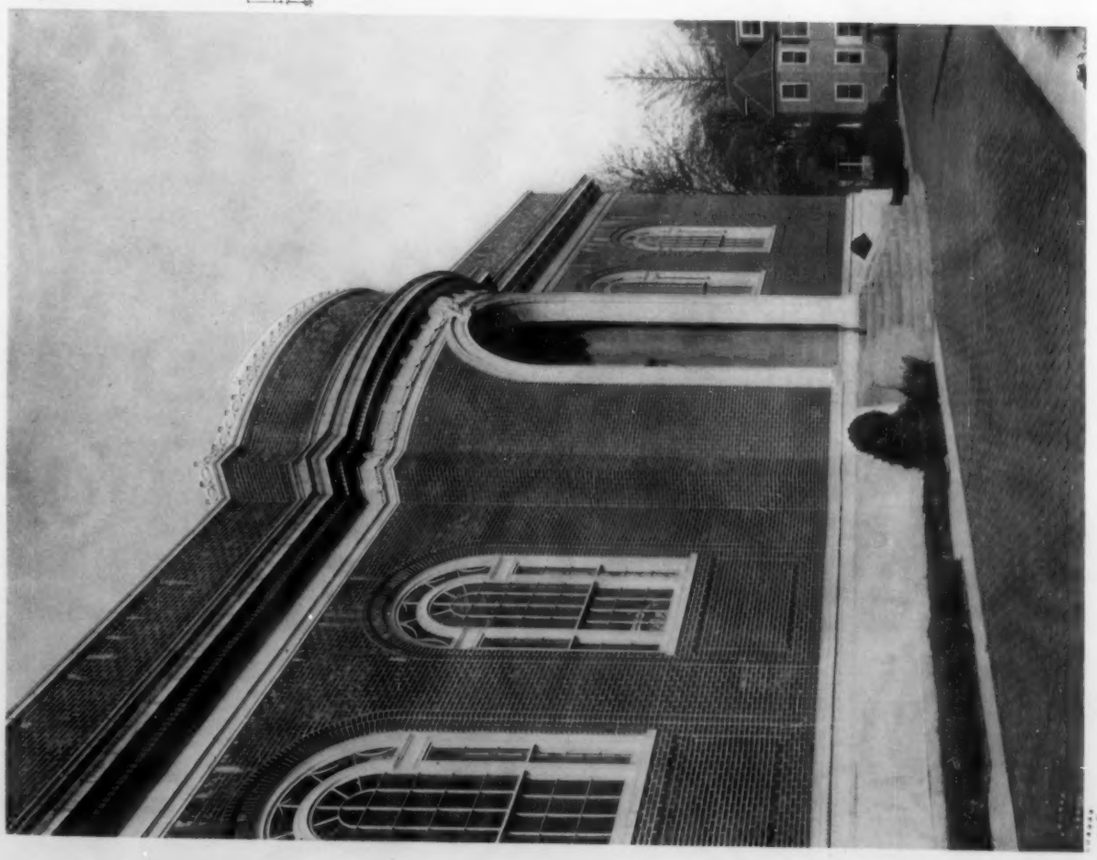
ALBERT KELSEY, ARCHITECT



FRONT ELEVATION



MAIN FLOOR PLAN



VIEW ALONG TERRACE

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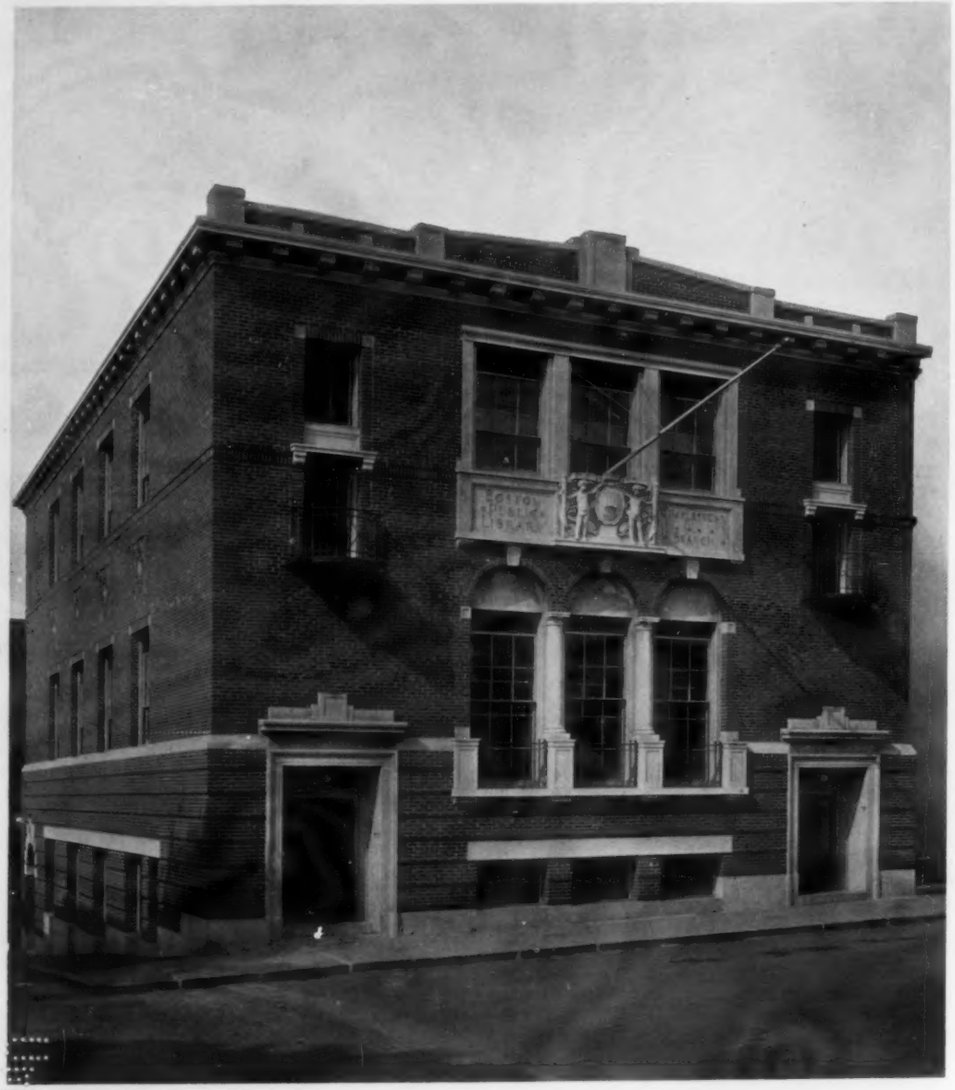
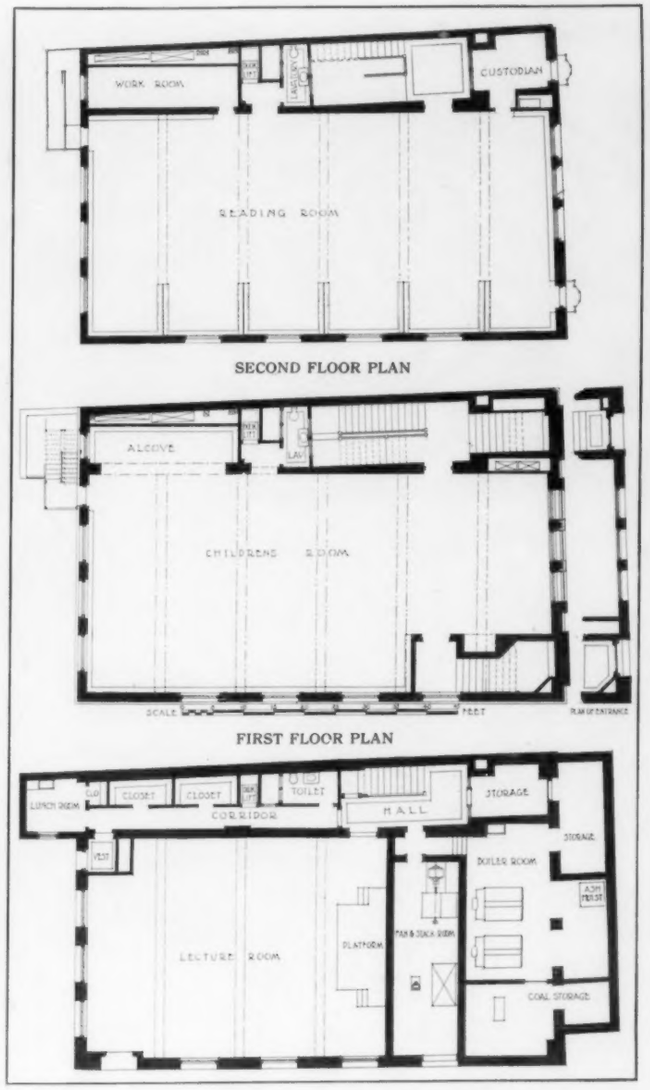
EMANUEL EINSTEIN MEMORIAL, POMPTON LAKES, N. J.

SLEE & BRYSON, ARCHITECTS

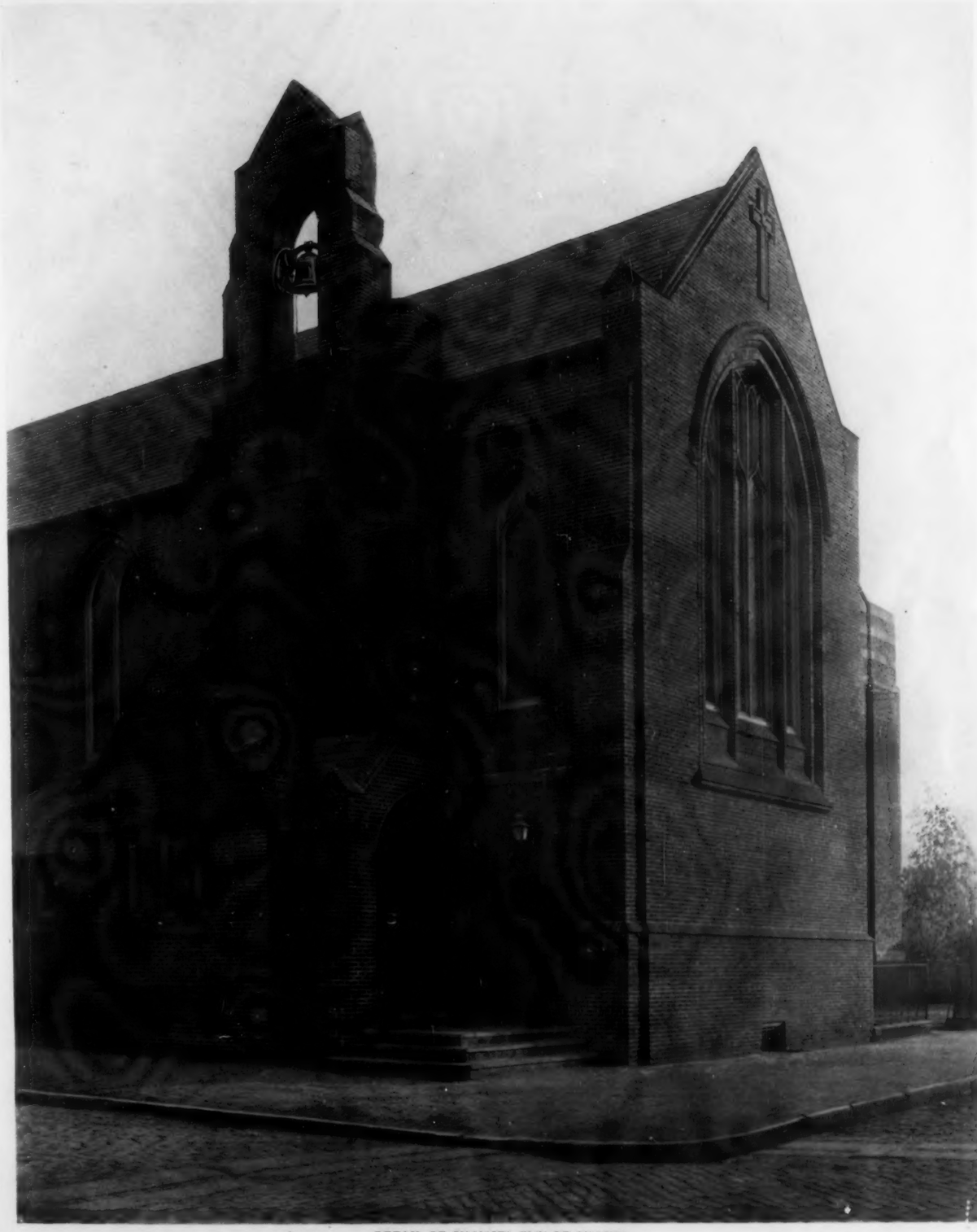


GENERAL VIEW



CHARLESTOWN BRANCH, BOSTON PUBLIC LIBRARY, CHARLESTOWN, MASS.

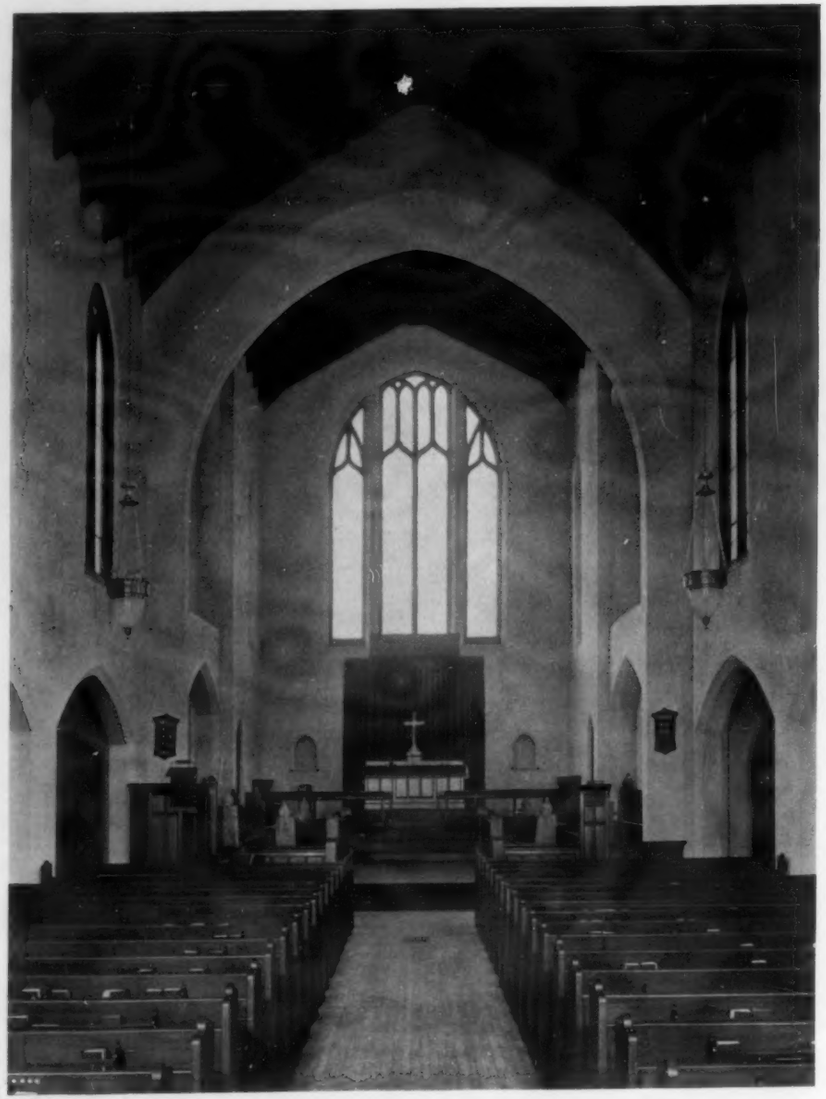
FOX & GALE, ARCHITECTS



DETAIL OF CHANCEL END OF CHAPEL

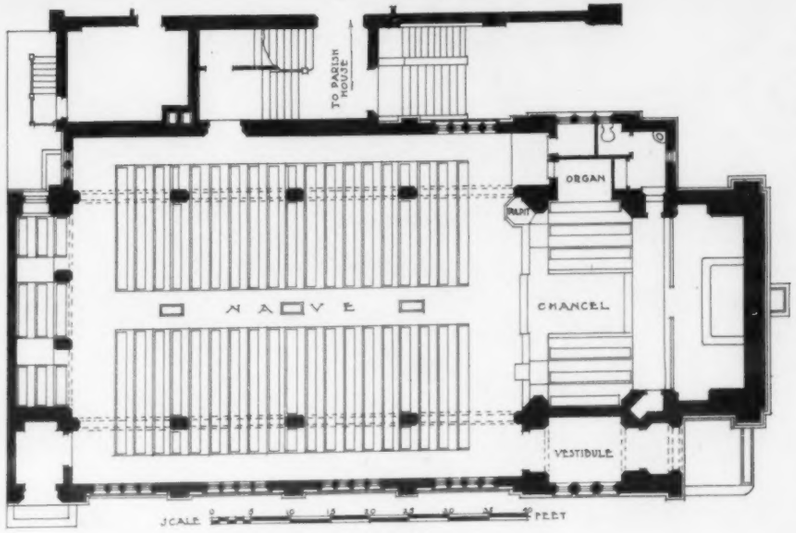
CHAPEL OF ST. SIMON THE CYRENIAN, PHILADELPHIA, PA.

WALTER H. THOMAS, ARCHITECT



INTERIOR LOOKING TOWARD CHANCEL

GENERAL VIEW

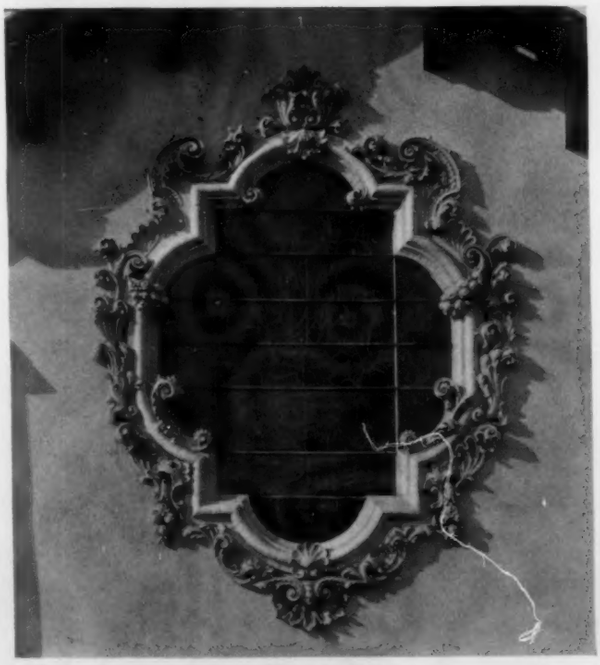


MAIN FLOOR PLAN

CHAPEL OF ST. SIMON THE CYRENIAN, PHILADELPHIA, PA

WALTER H. THOMAS, ARCHITECT

GENERAL VIEW

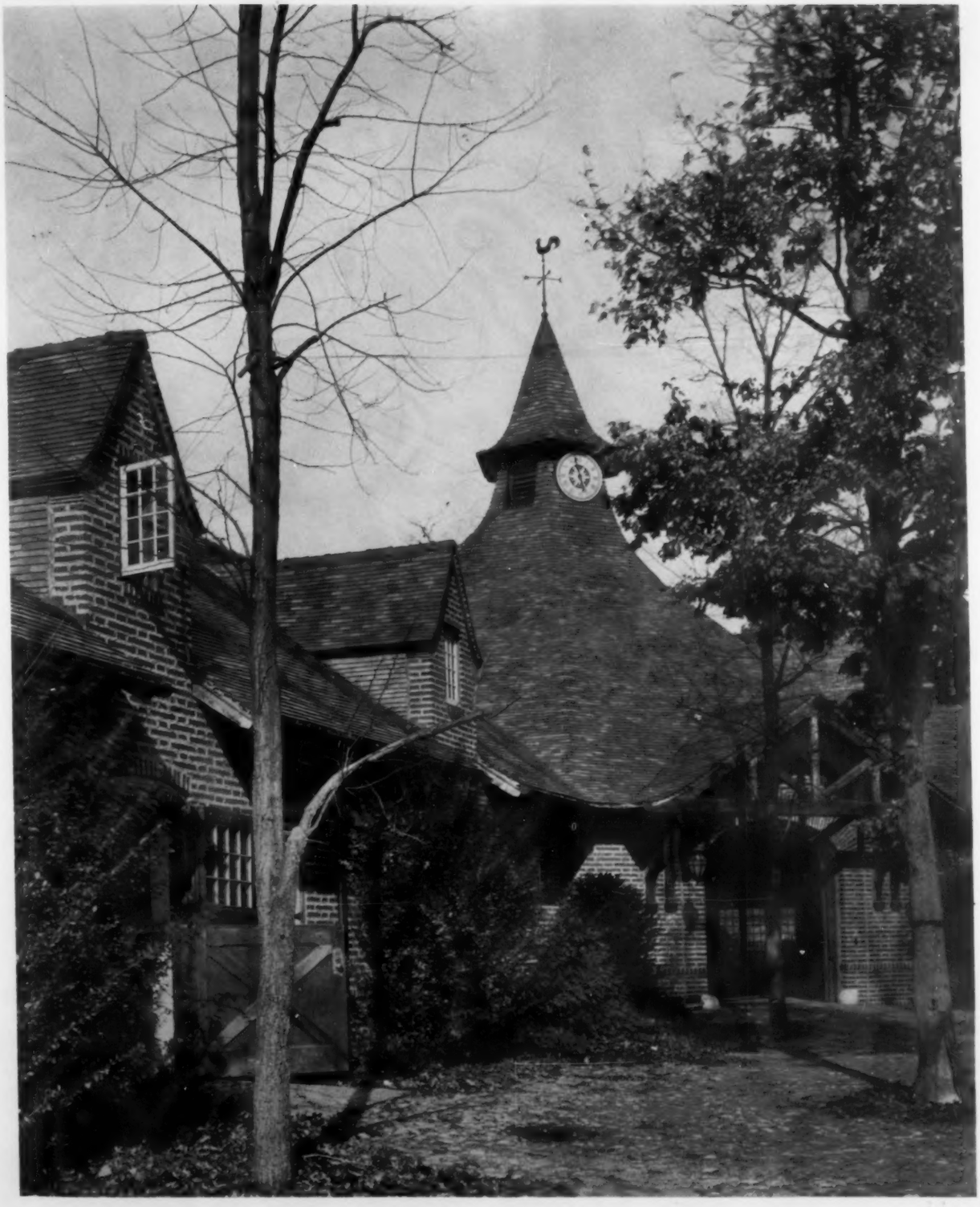


DETAIL OF WINDOW

INTERIOR LOOKING TOWARD PULPIT PLATFORM

THE ST. ANDREW METHODIST EPISCOPAL CHURCH, PHILADELPHIA, PA.

C. E. SCHERMERHORN, ARCHITECT



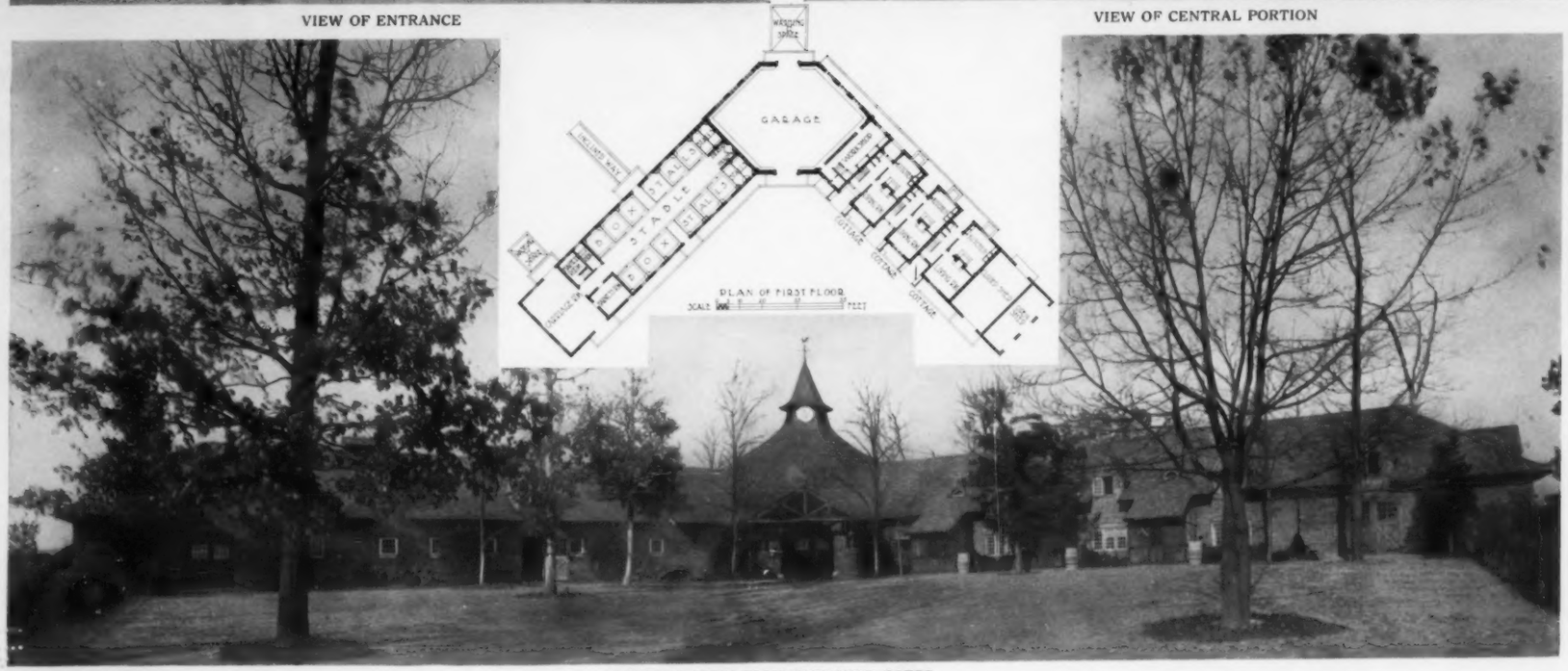
DETAIL SHOWING ENTRANCE TO GARAGE

STABLE AND GARAGE OF W. D. STRAIGHT, ESQ., WESTBURY, LONG ISLAND, N. Y.

DELANO & ALDRICH, ARCHITECTS

VIEW OF ENTRANCE

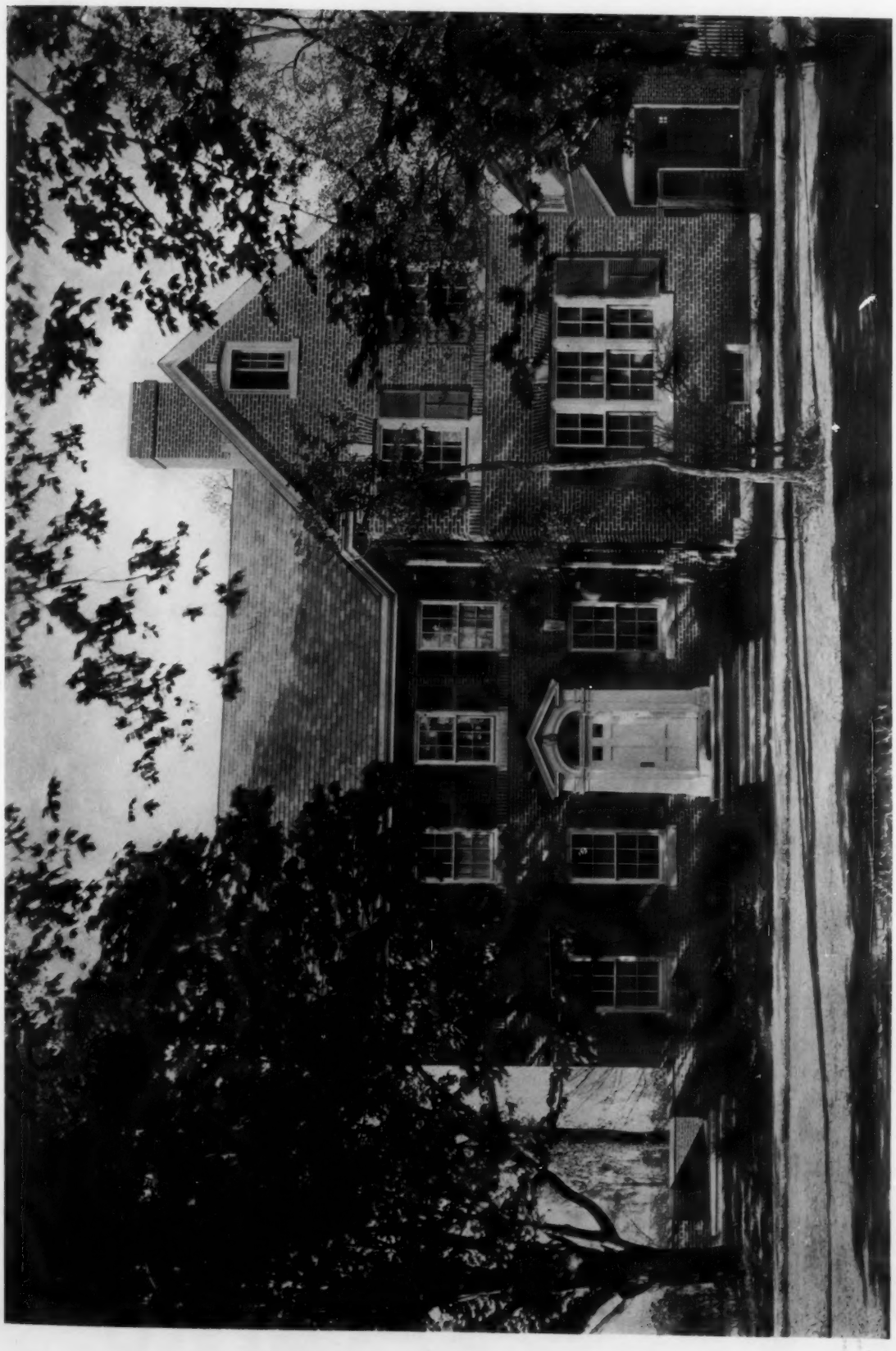
VIEW OF CENTRAL PORTION



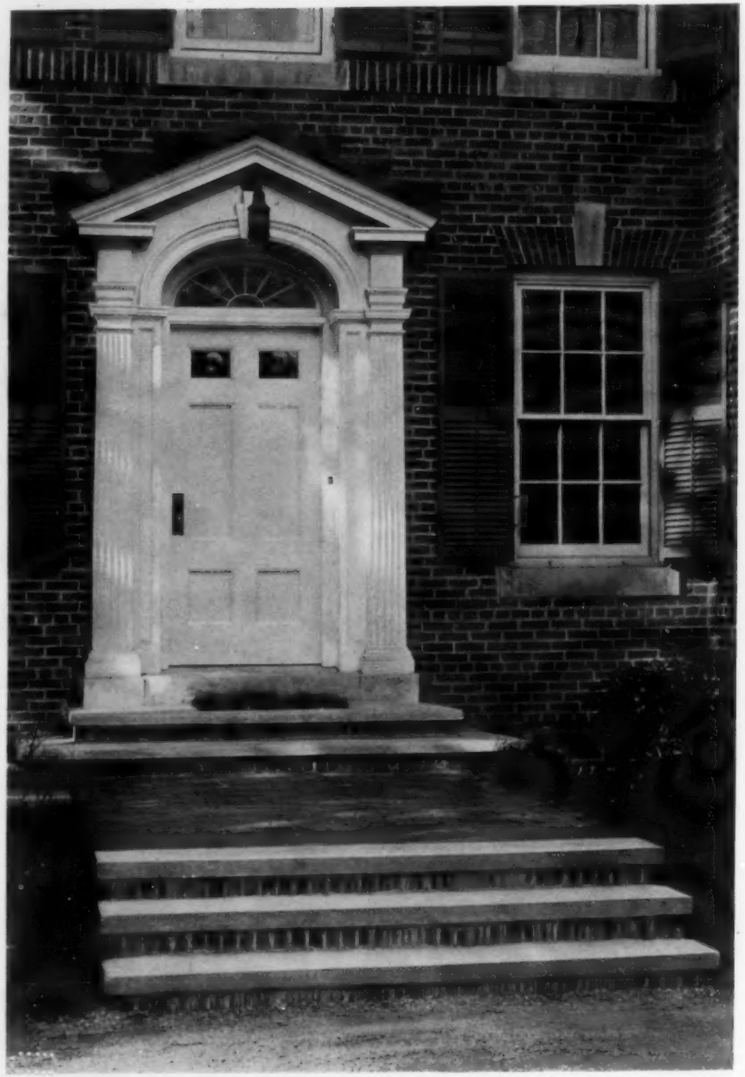
GENERAL VIEW FROM ENTRANCE GATES

STABLE AND GARAGE OF W. D. STRAIGHT, ESQ., WESTBURY, LONG ISLAND, N. Y.

DELANO & ALDRICH, ARCHITECTS

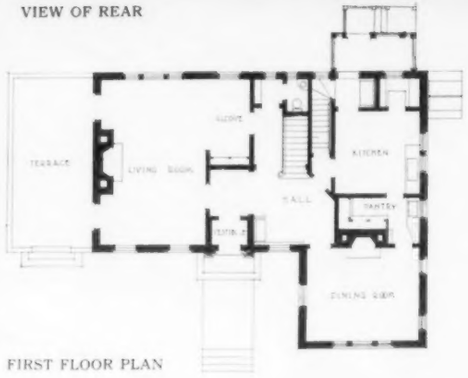


HOUSE OF MRS. J. G. THORP, CAMBRIDGE, MASS.
A. W. LONGFELLOW, ARCHITECT

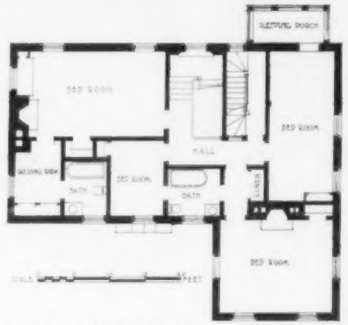


DETAIL OF ENTRANCE

VIEW OF REAR



FIRST FLOOR PLAN

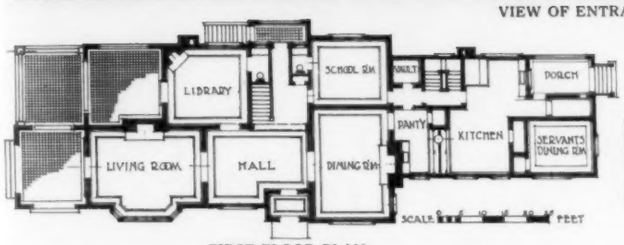


SECOND FLOOR PLAN

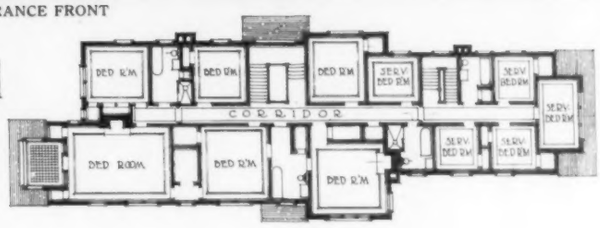
HOUSE OF MRS. J. G. THORP, CAMBRIDGE, MASS.

A. W. LONGFELLOW, ARCHITECT

VIEW OF ENTRANCE FRONT



FIRST FLOOR PLAN

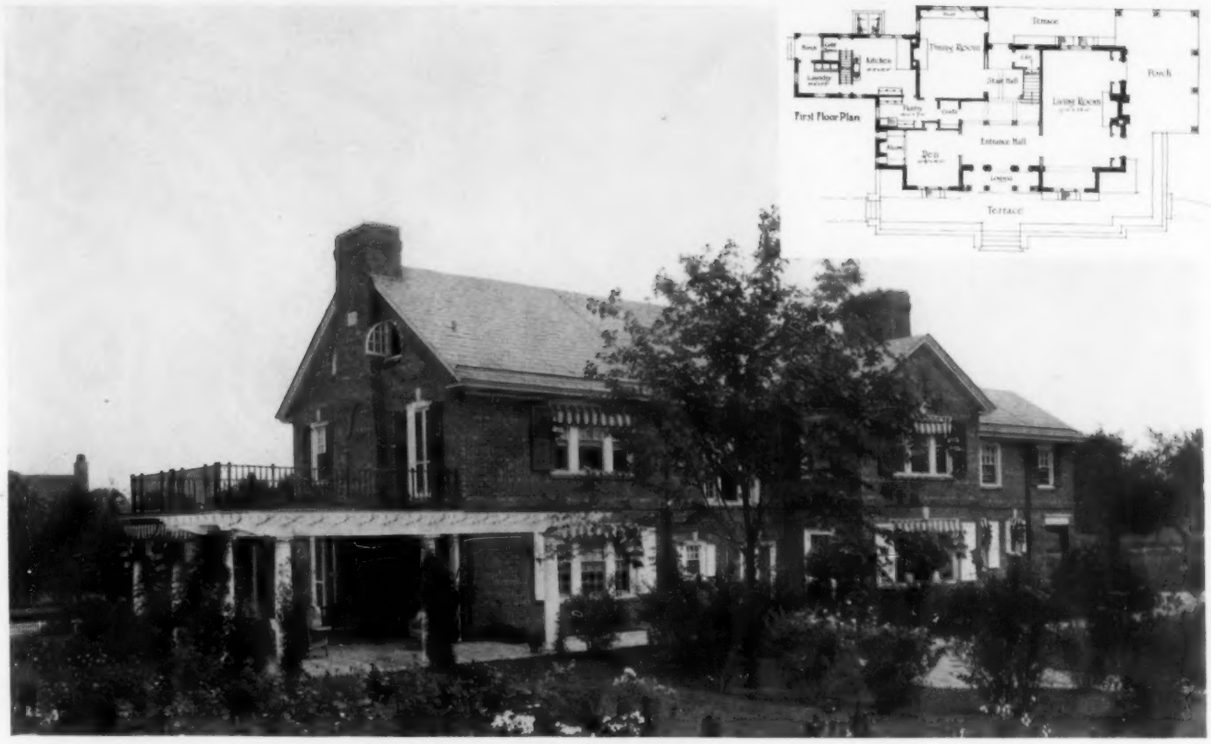


SECOND FLOOR PLAN

VIEW OF REAR

HOUSE AT RADNOR, PA.

BISSELL & SINKLER, ARCHITECTS



VIEW FROM GARDEN

VIEW FROM STREET

HOUSE OF JOHN JACOBS, ESQ., MERION, PA.

D. KNICKERBACKER BOYD, ARCHITECT

GENERAL VIEW FROM STREET

SECOND FLOOR PLAN

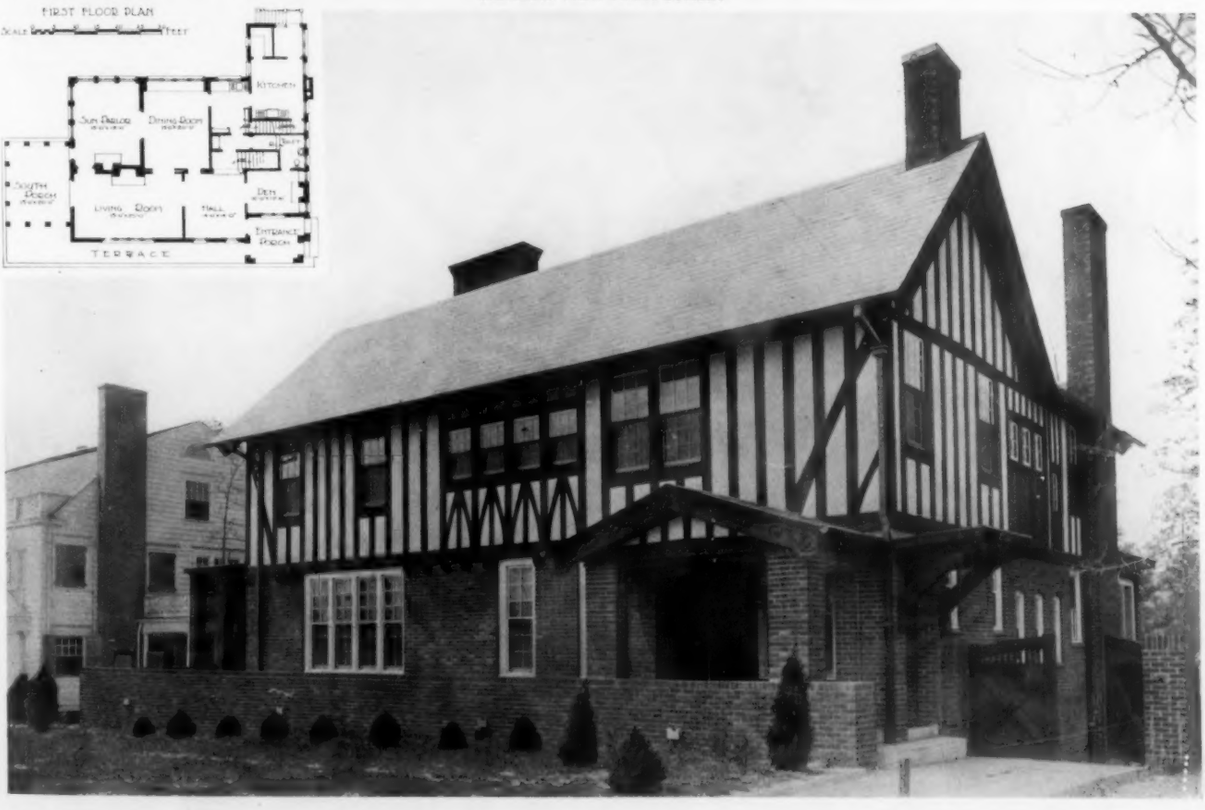
FIRST FLOOR PLAN

DETAIL OF DOORWAY

HOUSE OF JAMES COUZENS, ESQ., DETROIT, MICH.

ALBERT KAHN, ARCHITECT; ERNEST WILBY, ASSOCIATE

GENERAL VIEW FROM STREET



HOUSE OF HUDSON MOORE, ESQ., ATLANTA, GA.

W. T. DOWNING, ARCHITECT

THE BRICKBVILDER COLLECTION OF

EARLY AMERICAN ARCHITECTURAL DETAILS.

PLATE NINETEEN.

THE date of this stately doorway of wood is unknown, but it is probably early nineteenth century work. It is of an entirely different character from the other early work in Alexandria, resembling more the formal classic type in vogue at that time. The exact proportions of the order and its pediment, the studied and pleasing contour of the mouldings, and the architrave framing the opening are worthy of note. The house was originally a hotel or tavern.

DOORWAY OF HOUSE ON PRINCE AND ST. ASAPH STREETS, ALEXANDRIA, VA.

MEASURED DRAWING ON FOLLOWING PAGE.

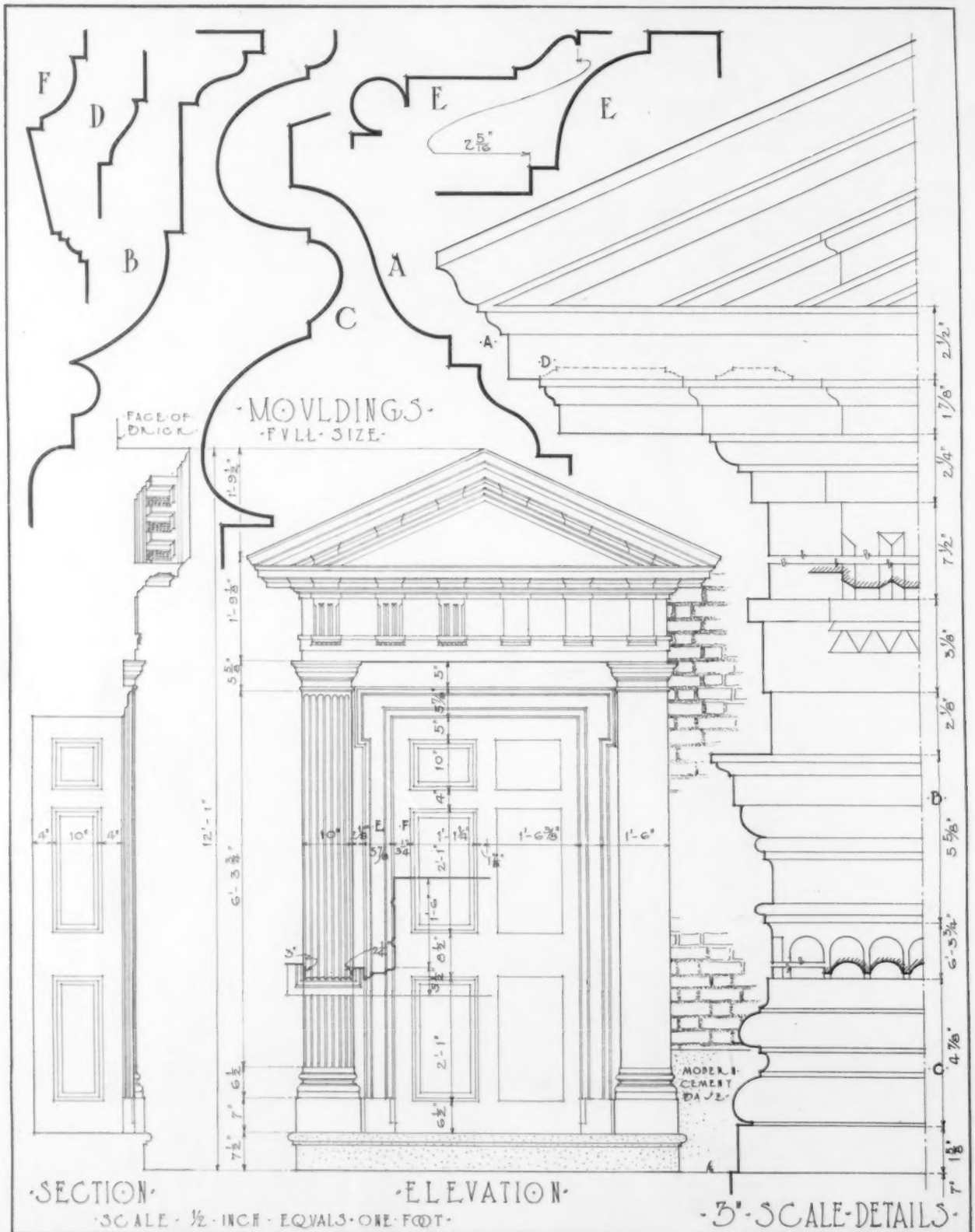


PLATE 19 APRIL 1916	ALEXANDRIA HOVSE ALEXANDRIA VA DATE VNKNOWN ARCHT VNKNOWN	MEASVRED & DRAWN BY J.L.KELSTER ~ O.J. MVNSON & J.A.WEBER

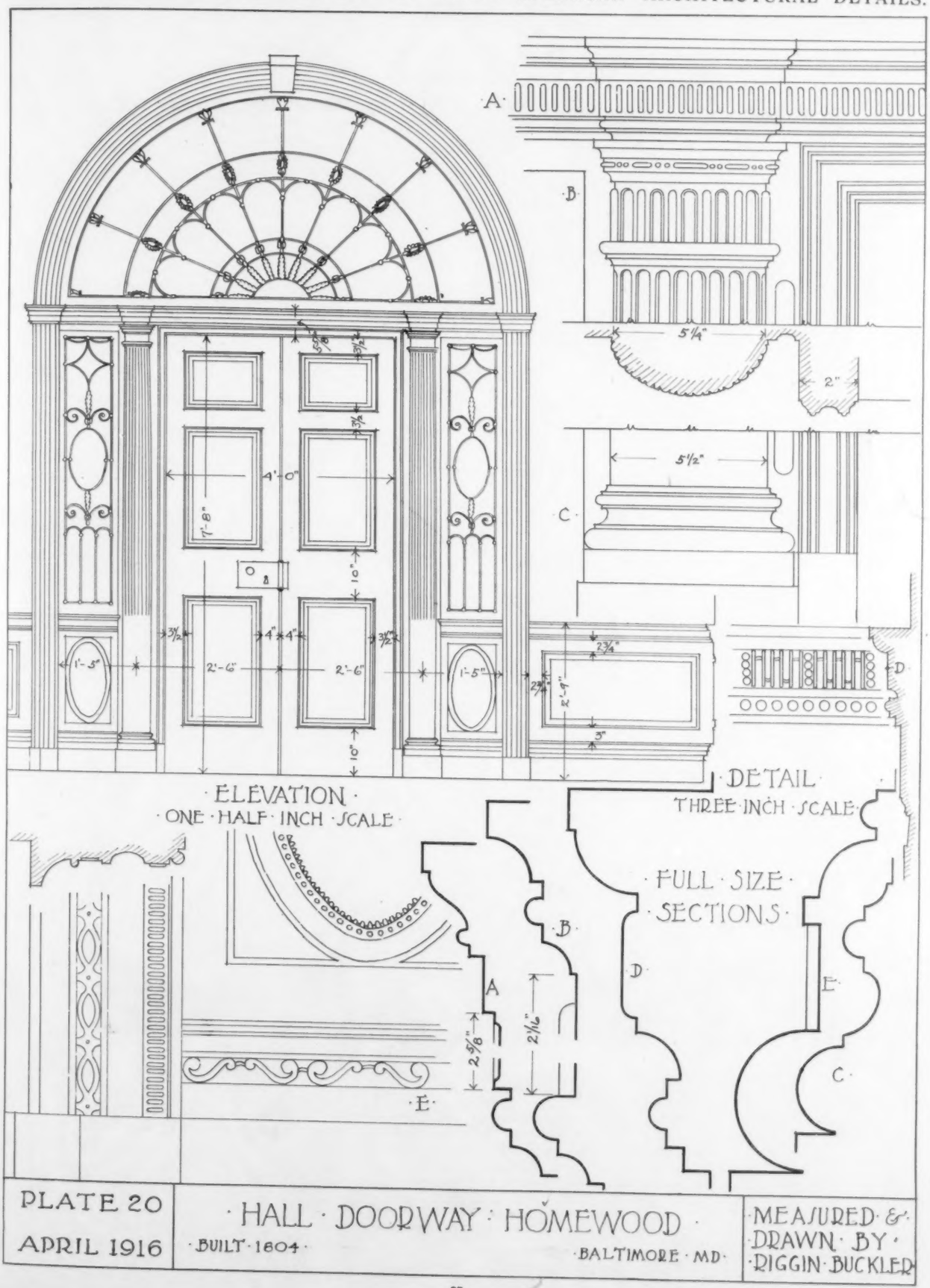


PLATE 20
APRIL 1916

HALL DOORWAY : HOMEWOOD
BUILT 1804
BALTIMORE MD

MEASURED & DRAWN BY
RIGGIN BUCKLER

PLATE TWENTY.

INTERIOR doors of this character are uncommon and are a pleasing variation from the conventional hallway arch. A long narrow hall runs the length of the building, and where it crosses the entrance hall the ceiling is vaulted. This doorway leads to the front hall and an arch of similar design to the rear. The detail is very delicate and all the mouldings are enriched with carved ornament. Softened by time, the effect of this enrichment is very pleasing. The leaded fan and side lights are particularly good examples of their kind.

HALL DOORWAY, HOMEWOOD, BALTIMORE, MD.

Built in 1804.

MEASURED DRAWING ON PRECEDING PAGE.

The School Power Plant.

By HAROLD L. ALT.

THE subject of a school power plant is one most interesting to the taxpayer and the school board, and for these reasons also to the architect. Even where a power plant is not to be considered there are many cases where provision by the architect for a possible future power plant gives the school board a sufficient advantage over the local lighting company to obtain substantial reductions in rates even if a plant is never actually installed. On the other hand, in some instances, the local service company is supplying current at an entirely fair and equitable rate so that its use by the school under this circumstance is much better judgment than the installation of a separate plant.

As a general proposition a power plant in a building will show the greatest saving: first, where the building is used twenty-four hours per day; second, where the power and light requirements are heavy and continuous; third, where the rates for outside current are high; and fourth, where the power can be produced on the premises without excessive expense or discomfort.

It is interesting to note that the general idea of installing a plant for the purpose of producing light and power and then, as an afterthought, utilizing the exhaust steam in the heating system is entirely a wrong perspective. With a power plant or without, the building must be heated and, if laundry or steam cooking is done, steam will be required at 40 to 60 pounds pressure; while even without these additions the steam for the heating system must be supplied at a pressure between atmosphere and 5 pounds. In any way the building may be arranged, steam will be required. Since it is necessary to have steam, why not obtain its full valuation? Experiment and actual test show the surprising fact that with steam at 100 pounds pressure there is but little practical difference whether it is let into the heating system by being expanded through a reducing valve or whether it is expanded behind the piston of an engine and then enters the heating system after passing through a grease extractor to separate the oil. In fact, the additional amount of steam required for the engine operation is only some four per cent!

In exchange for this four per cent the engine will light the building — all day long if desired, run every motor and supply all the other power needs with no need of additional coal, as long as heat is kept up in the building. On this point a school has a great advantage over every other class of building, as it is almost entirely operated during the season when heat is required and is closed for a large part of the summer. Thus, while a school may be charged a minimum rate for the summer months by the service company (this charge often being $50 to $60 per month), with its own plant all expense ceases as soon as the building is closed.

As a general statement, every building uses steam enough in heating to more than supply any ordinary power and lighting load. In fact, a make-up connection is always installed between the high pressure steam main and the heating system steam main so that *additional* steam (over and above that used by the engines) can be obtained through a reducing valve.

The main point of loss in the isolated plant is the coal required to be burned on warm days to keep up steam where otherwise the fires could be banked, but there is always some demand for hot water, and, where cooking or laundry needs are to be satisfied, this loss becomes practically nil.

Night school also makes a big difference in the amount of current used for lights, this current generally being charged for at a higher rate than current used for motors or power.

To determine accurately the saving, if any, by the installation of a plant in a school, a careful study of the individual conditions must be made in each case — probable hours of operation, amount of power used, future extensions and a multitude of other things are considerations. Accurate information on these points is often unattainable, and in its stead wild guesses are substituted, the errors in which are shown when accurate data is received.

Since practical examples are always more interesting and generally far more easily understood than a miscellaneous group of generalities with no definite and concrete application, let us consider a typical instance where a school of the older type contemplated the installation of a plant. This case is offered here because the school was right on the border line between a "plant" and "no plant" and also because some very exact information (later obtained) showed that this plant would not be profitable; yet when figured on the basis of the janitor's estimates (evolved from his guess as to the number of hours operated and horse power of apparatus run) figures were produced indicating a power consumption of between *four* and *five* times the amount actually used, the true amount being later determined by the discovery of the bills showing the electric meter readings month by month for the year previous.

This error in the janitor's estimate would have cost the school board some $450 a year had they decided to put in a plant on the basis of the consumption that the janitor claimed.

The conditions under which the building was operating as far as they were obtainable from bills and other data are as follows:

The school was burning 450 tons of coal per year to heat the building at $4.50 per ton, or $2,025 per year.

Total motor horse power for some 26 motors was 130 H. P., or about 97 Kw.

Total lights equaled the equivalent of 1,000 — 60 watt tungsten lamps, or 60 Kw.

The total current consumption month by month consisted of the quantities as given in the table on the following page.

	Light. Kw. Hours.	Cost.	Power. Kw. Hours.	Cost.
Jan.	900	$86.00	4370	$192.00
Feb.	680	66.00	5260	210.00
March	730	80.00	4218	190.00
April	670	65.00	3088	166.00
May	620	61.00	2728	160.00
June	600	59.00	----	58.00 (*a*)
July	400	40.00	----	58.00 (*a*)
Aug.	270	27.00	----	58.00 (*a*)
Sept.	440	44.00	----	58.00 (*a*)
Oct.	621	51.00	4498	195.00
Nov.	740	72.00	5788	220.00
Dec.	1113	104.00	5178	208.00
	7784)	$755.00	35128)	$1773.00
	Av. rate per hour,	.097	Av. rate per hour,	.05

(*a*) Indicates minimum rate charge per month.

Total light bill	$755.00
Total power bill	1,773.00
Total electric bill	$2,528.00
Total light Kw. H.	7784
Total power Kw. H.	35128
Total electric Kw. H.	42912

(The janitor's estimate was 166,100 Kw. H., or four times as much as actual.)

To all intents this building appears to be one in which a power plant would effect a considerable saving, yet when carefully analyzed it was proved conclusively that the school was being operated at least as cheaply, if not more cheaply, through the use of outside current as it would be with its own plant. This is owing to a large extent to the fact that a low pressure boiler plant was installed, which would require excessive expense to tear out and remodel into a high pressure plant, and the fact that the building was not complete, thereby requiring the installation of units *now* whose full capacity would not be required until the future building program had been completed.

Added to this was the fact that there was, in this particular case, no night school to be considered and a load, generally averaging much below the maximum, which could, however, be thrown on entirely at one time during certain intervals.

A careful estimate made of the cost and operating expense for a power plant in this building is most instructive. The total connected load (allowing for ordinary electrical losses) was 130 motor horse power, or

About	110 Kw. for power and
About	60 Kw. for light
or	170 Kw., total

The school board contemplated certain changes in the courses, involving additional power requirements of some 50 Kw. This increased the load to 220 Kw., to which had to be added an allowance of 30 Kw. to cover an addition to the building under consideration for the near future. This resulted in a total future load of 250 Kw.

It was decided that it would be necessary to install two 125 kilo-volt-ampere alternators driven by steam engines so that one would carry the load at normal times and two could be used at periods when the whole building, including gymnasium, auditorium, etc., might be in use. Two units were desirable so that in case of breakdown the necessary portion of the school could be run on one unit. Without duplicate units, breakdown service must be obtained from the local service company, and it is usually only to be had at such exorbitant rates as to make the operation of a private plant unprofitable, which is the very reason that the rates are made excessive.

The cost to install a plant of 250 Kw. capacity laid out as indicated in Fig. 1, which shows the installation contemplated in this instance, would require expenditures as follows:

Two 125 K. V. A. alternators and exciters	$3,560.00
Freight and mounting on engine shaft	400.00
Switchboard and voltage regulator	800.00
Recording watt meters	200.00
Two engines erected complete	4,000.00
Foundations	500.00
Electric wiring	750.00
Additional partition to form engine room	200.00
Tearing up and replacing floors	150.00
Steam piping, pumps, feed water, heater, and accessories	5,500.00
Engineering fee	800.00
	$16,860.00

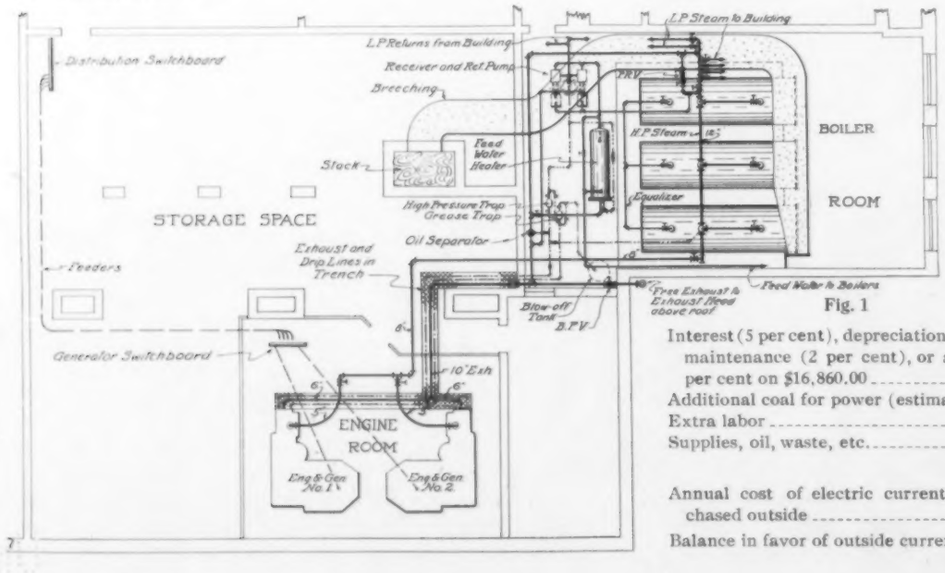


Fig. 1

This gives the total additional investment required for the power plant from which interest and depreciation can be figured to obtain the annual operating cost. This is as follows:

Interest (5 per cent), depreciation (5 per cent), maintenance (2 per cent), or a total of 12 per cent on $16,860.00	$2,023.00
Additional coal for power (estimated)	450.00
Extra labor	400.00
Supplies, oil, waste, etc.	100.00
	$2,973.00
Annual cost of electric current when purchased outside	2,528.00
Balance in favor of outside current	$445.00

It must be remembered, however, that *this* was a comparison between power consumption *at present* as compared with the cost of operating a power plant big enough for all the future needs. It has been seen that the existing consumption consists of

7,784 Kw. H. for lamps
35,128 Kw. H. for power

and that the total connected load for power is some 110 Kw.; but what happens when the increased demand for current contemplated by the board takes place? The connected load increases from 170 Kw. to 220 Kw., or about 30 per cent, and the current consumption will jump at about the same rate. Then instead of 35,128 Kw. H. per year for power, there will be used

35,128 x 1.30 =
45,660 Kw. H.,

which at the average rate of .05 per Kw. H. (cost from public service company) makes the

Power bill	$2,283.00
Light bill	755.00
Total power cost	$3,038.00
Against this is operation cost of plant	2,973.00
or a saving of	$65.00
Consumption of coal will also be increased 30 per cent, or	135.00
Net saving, or balance in favor of outside current	$70.00

This shows a plant which operated at a loss would come up to about an *even* break with the increase in current proposed, while at the time of the completion of the addition it will be fairly desirable, as the following indicates:

Total connected load	160 Kw. for power
	60 Kw. for light
	220 Kw.

30 Kw. increase for addition on building equals about 30/220, or 14 per cent. This may be considered as about proportionately divided between the light and power, making the

Light bill, $755.00 x 1.14	or	$860.00
Power bill, $2,283.00 x 1.14	or	2,602.00
Total for outside current		$3,462.00
Plant operation		2,973.00
Saving		$489.00
Cost of additional coal:		
$450.00 + $135.00 = $585.00		
$585.00 x 14 per cent = 81.90		$216.90
$135.00 + $81.90 = 216.90		
Saved per year,		$272.10

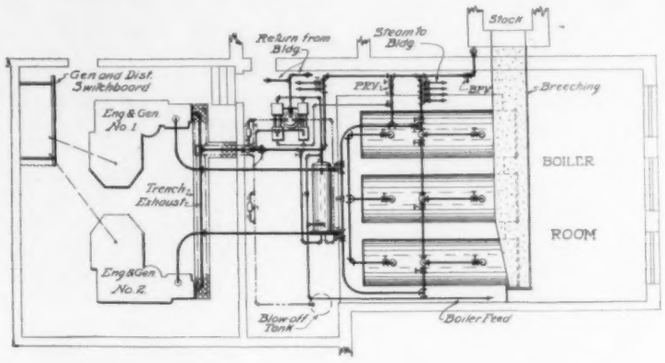


Fig. 2

Considering the fact that this building is not one of the newest type, and that its power requirements are not equal to those of the average up-to-date school, that it is contemplated to tear out and discard a large amount of low pressure steam piping, and that new partitions must be built, old walls cut, and more or less alteration work done as shown in Fig. 1 (most of which expense would be avoided in a new job), is not this fairly conclusive evidence that in a great number of cases a power plant is an economy in the modern school?

The trend is all in favor of increased current consumption; more elaborate equipment, more interesting experiments, more pumps, fans, vacuum-cleaning machines, laundry equipment, etc. All these demand current and still current; and the more current used the greater is the advantage of the isolated plant.

Suppose the school considered above should decide to hold night sessions. This would jump the lighting current to three or four times as much as at present, resulting in a saving not of $272.00, but of $2,042.00 to $2,797.00 additional. In fact, it is not at all impossible to save $2,000.00 per year where conditions are right, and this is actually being done in more than one case.

Any school whose monthly electric bill is $400.00 or over should be investigated in order to ascertain the cost and probable saving which would be obtained by the installation of a power plant for its own use.

This makes clear the architect's duty to every school board to at least provide for a possible economical installation. Had this matter been in mind in the case cited, an approach to the ideal arrangement shown in Fig. 2 could undoubtedly have been made. Here the same identical equipment is installed in a ship-shape systematic arrangement, with the smoke breeching short and direct, the high pressure steam main a loop header, giving less liability to break down and a much shorter length of underfloor trench in the engine room.

Besides this there is the element of extension always to be considered. No school board, when it builds a new building, has any idea that future extension will be required for many years. Yet extensions often come altogether too soon for comfort, especially if the boiler room cannot easily be enlarged. It will be noted in Fig. 2 that ample provision has been made for future extension on the side opposite the stack either by another installation of equal size with another stack on the far side, or by the addition of only one unit using the present stack.

HOUSE AT CLEVELAND, OHIO

FRANK B. MEADE, ARCHITECT

An Experiment in Co-operative Training in Architectural Design.

THE proximity of one institution of learning to another has often led to proposals from one to the other that have resulted in mutual material savings. These proposals have led further to still more desirable results in the fields of study, owing to a spirit of co-operative endeavor naturally fostered by such agreements. There are a variety of ways in which schools so similarly organized may draw closer together for mutual benefit. These remarks will be confined to a consideration of an experiment in training in architectural design recently undertaken in Boston.

For many years the Massachusetts Institute of Technology and Harvard University have been carrying on departments of architecture which, in the courses in design, have required very similar work from their advanced students. A series of six or seven problems given through the year have been done under similar conditions and have covered very much the same ground.

The Boston Architectural Club has been able to provide courses in design modeled on those recommended by the Society of Beaux Arts Architects and in construction, history, mathematics, etc., courses so arranged as to meet the requirements for the Rotch Traveling Scholarship. These courses have been very helpful to the younger draftsmen who have been unable to obtain an architectural education elsewhere.

In design the method in vogue at the Ecole des Beaux Arts, which has met with such universal approval, has been followed at the Boston Architectural Club since the foundation of its Atelier, and was adopted some years previous to this by the Massachusetts Institute of Technology and later by Harvard University. The student goes *en loge* with his program for a number of hours, and when his solution is decided upon it is definite and to which he must rigorously adhere in the working out of his final drawing. He retains a copy of the rough sketch which he has turned over to his instructors for reference, beside him during the time that he spends in working up and finishing his drawings. At the time of judgment the original sketch is pinned to the drawing to give the jury the key to the student's method of thought, and is of great value in gauging the ability of the student in the handling of his problem. If the sketch has not been adhered to nor carried out in its essential scheme, the finished drawing is not considered for award.

This method — almost universal to-day in the teaching of architectural design in America — has proven itself of great disciplinary advantage and also made the accomplishment of more work possible in a given time.

The spirit of competitive endeavor, without which the work of the younger designer must languish, is kept alive in all schools by exhibition of the student's work. Nor is this the only advantage of the exhibition. Comparison of his own work with that of his fellow is undoubtedly of great value to the student, who is then given a real opportunity to weigh the merits of the numerous solutions of the problem after he has become thoroughly familiar with the given conditions; to derive benefit from suggestion and also to nourish in himself the ability to criticize judicially the work of others.

The scope of benefit to be derived from the exhibition is thus unlimited in theory and becomes actually wider as the number of drawings in the exhibition is increased.

Students at the Boston Architectural Club have been unable to see the exhibition of their work done under the auspices of the Society of Beaux Arts Architects because of the difficulty, generally due to expense, of getting to New York where these exhibitions are held.

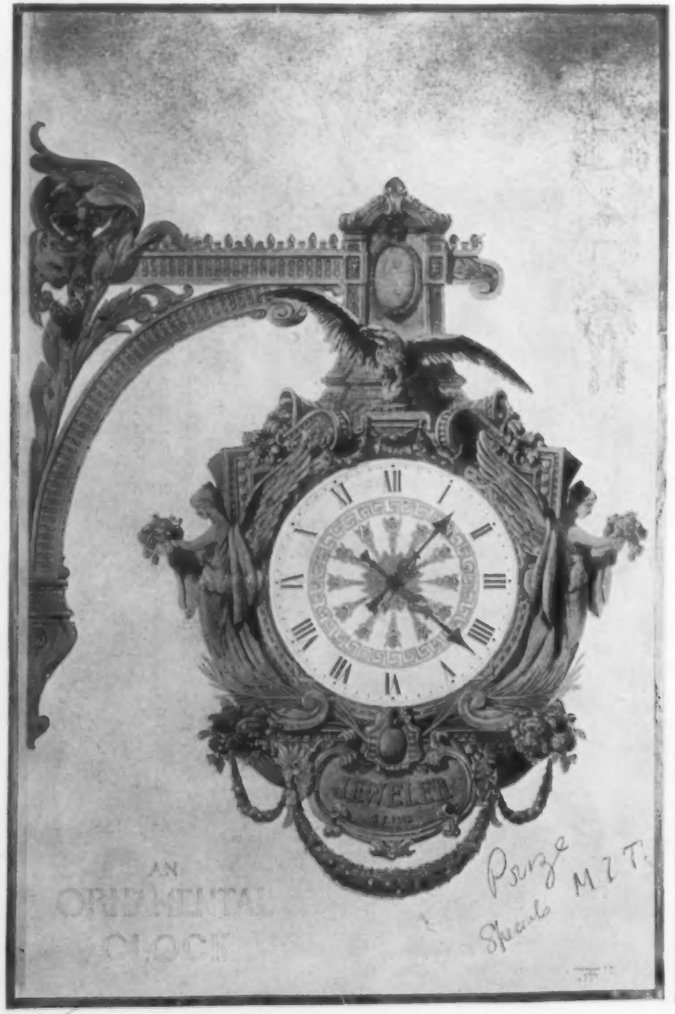
Harvard and the Massachusetts Institute of Technology have always exhibited their drawings at the end of each *rendu* in the halls at their disposal.

It was the realization of the undeveloped possibilities in Boston in this direction that led the Committee on Education of the Boston Society of Architects last year to propose to the two schools and to the Architectural Club a scheme of co-operation in their work in design. This proposal was met by the hearty approval of all, and in so far as dissimilar schedules in the three schools have made it possible, dates have been set for problems to be done simultaneously and exhibited in common.

For a year the principle of co-operation as applied to architectural training has thus been on trial and seems to have proven itself successful and capable of development. To-day, however, owing to different calendars, Harvard and the Massachusetts Institute of Technology are still doing the greater part of their work in design independently, though it is confidently expected that as opportunity permits, more and more of these problems will be done in common. The Boston Architectural Club still continues its work under the Beaux Arts Society system and will continue to do so. The work of its students under this system is sent off as usual to New York for judgment. The problems arranged in common with Harvard and the Massachusetts Institute of Technology are supplementary and are offered as an option to the student.

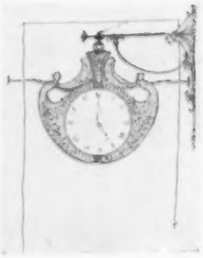
A jury consisting of three representatives from each school judges the finished drawings, which are alternately exhibited at Harvard, Technology, and the Architectural Club. The meetings of this jury have been interesting and have led, through consideration of the drawings in question, to discussions that have been of benefit to all concerned. A close understanding now exists which should lead to a more comprehensive and valuable course offered to the student.

The drawings illustrated on the following pages are those premiated in a recent problem given at the same time to the three schools. The program required a design for a large ornamental clock to be suspended from the second story of a jeweler's establishment on an important city street. Two vertical faces which could be illuminated at night and each of which should have a dial three feet in diameter were to be provided.



Preliminary eight-hour sketch for design shown on the left.

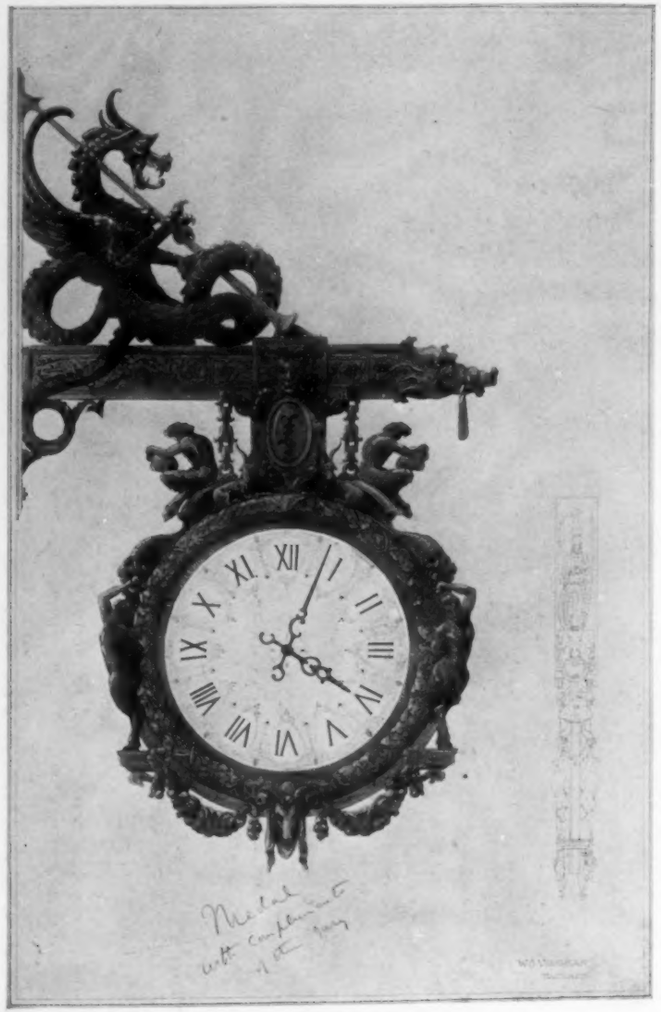
Preliminary eight-hour sketch for design shown on the right.



DESIGN BY V. W. JORGENSEN
PRIZE, SPECIAL COURSE, MASSACHUSETTS INSTITUTE OF TECHNOLOGY

DESIGN BY O. R. FREEMAN
PRIZE, REGULAR COURSE, MASSACHUSETTS INSTITUTE OF TECHNOLOGY

COMPETITIVE DESIGNS FOR AN ORNAMENTAL STREET CLOCK



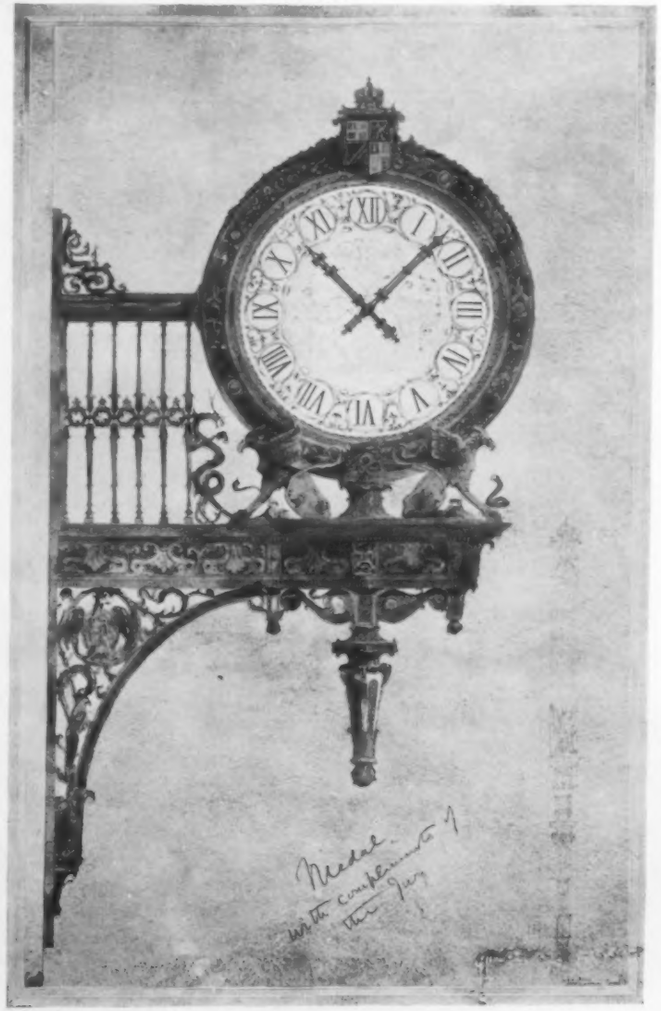
DESIGN BY W. S. VAUGHAN
MEDAL, HARVARD UNIVERSITY

Preliminary eight-hour sketch for design shown on the left.

Preliminary eight-hour sketch for design shown on the right.

DESIGN BY SIGMUND NESSELROTH
PRIZE, HARVARD UNIVERSITY

COMPETITIVE DESIGNS FOR AN ORNAMENTAL STREET CLOCK



DESIGN BY ARTHUR R. HUTCHASON
MEDAL, HARVARD UNIVERSITY

Preliminary eight-hour sketch for design shown on the left.

Preliminary eight-hour sketch for design shown on the right.

DESIGN BY R. DE GHETTO
PRIZE, BOSTON ARCHITECTURAL CLUB

COMPETITIVE DESIGNS FOR AN ORNAMENTAL STREET CLOCK

PLATE DESCRIPTION.

HADDINGTON BRANCH, THE FREE LIBRARY OF PHILADELPHIA, PHILADELPHIA, PA. PLATES 49–51. This library building shows an interesting treatment of simple wall surfaces through which distinction is gained for the whole composition. The design of the façade is composed of five arches, the central one of which is slightly larger and carried out in ornamental terra cotta to mark the principal entrance. The intervening wall surfaces have been carried out in a simple brick bond so that all emphasis is placed upon the central bay. The open portico is an exceedingly good example of the use of polychrome terra cotta. It is finished in a lustrous glaze in blue, yellow, and green. The interior walls of the portico are rusticated, and at regular intervals there are conventionalized blocks ornamented with old-looking volumes in low relief. This treatment forms a sort of diaper pattern which culminates in deeply coffered panels around a central rosette forming the vault overhead. The exterior lighting of the entrance has been so arranged that the beauty of this feature will be distinctly brought out at night.

Polychrome terra cotta has similarly been used in the frieze to give a touch of color and ornament, and here special plaques have been incorporated bearing various printer's marks.

The interior of the building has been executed with simple plaster walls and dark stained oak woodwork with linoleum covered floors.

CHARLESTOWN BRANCH, BOSTON PUBLIC LIBRARY, CHARLESTOWN, MASS. PLATE 53. This building is located on Monument Square, Charlestown, on a lot which slopes sharply to the rear. This fact was taken advantage of in planning the building, so that a large lecture room was provided in the basement with a direct entrance from the street.

The library proper is reached through two entrances located at the grade, one of which leads directly to the children's reading room on the first floor and the other to the main reading room on the second floor.

Practically all the space on the first and second floors is given over to the use of the public, there being no necessity of stack room other than that which is provided through shelves on the walls and in bookcase alcoves arranged between windows.

The exterior is faced with a dark red brick laid in running bond with headers in every sixth course. The trim is limestone, and the sculptured seal, which provides a note of accent on the entrance façade, is that of the Boston Public Library.

CHAPEL OF ST. SIMON THE CYRENIAN, PHILADELPHIA, PA. PLATES 54, 55. This church shows an interesting use of brick in a building of the Gothic style. The exterior is faced with a red repressed stretcher brick. This material has been used for practically all details of the façade, including copings, sills, and mullions, and in addition to eliminating the cost of stone trim it gives the building a distinctive character not to be had through more elaborate means. The roof is of variegated slate, and gutters and leaders are copper.

The present window mullions are of wood and are temporary, it being the intention at a future date to insert limestone mullions with permanent memorial windows. The interior is simply carried out in plaster with an open timbered roof of oak. The chancel fittings and pews are also of this wood.

The cost of the building, including furnishings and architect's fee, was 25 cents per cubic foot, excluding the basement and taking the mean height of the roof in the computation.

THE ST. ANDREW METHODIST EPISCOPAL CHURCH, PHILADELPHIA, PA. PLATE 56. This small church has been designed following the precedent of Mexican architecture. It is constructed of brick, the exterior finish being stucco. The roof is of red Spanish tile and trimmings are of white matt glazed terra cotta. The interior is chiefly characterized by the large tile dome which covers the greater portion of the auditorium, and the manner in which the organ has been arranged.

It is intended at a future date to construct an addition to the rear which will provide space for Sunday-school purposes.

STABLE AND GARAGE OF W. D. STRAIGHT, ESQ., WESTBURY, LONG ISLAND, NEW YORK. PLATES 57, 58. This building is built with an L-shaped plan around a large square court, the other two sides of which are formed by a high brick wall. The entrance to the court is at the angle of the enclosing walls on the main access of the building.

The garage is situated in the center of the group, and long wings to the right and left contain, respectively, the stable and carriage room, and a group of three cottages for help employed on the estate. The latter has a distinctly domestic appearance and shows many charming characteristics of English country buildings.

The exterior walls are constructed of a rough texture red brick laid in a wide white mortar joint. The roofs are covered with small shingle tiles, as are also the cheeks of the dormers.

HOUSE OF HUDSON MOORE, ESQ., ATLANTA, GA. PLATE 64. This house is located on Peachtree Road, about five miles from Atlanta. It is constructed of a rough texture brick on the lower story and half timber and plaster on the second. The brick wall is laid in Flemish bond, the colors running through dark reds and browns. The timber work is of undressed lumber, stained brown. The plaster is tan color. The terrace and porch floors are of tile and the sun parlor is faced with the same brick as used on the exterior walls. An interesting detail of the house is the carved barge boards over the entrance and the heads which appear under the belt course at the second story level and on the gable brackets.

The interior is finished throughout in birch and the total cost was $15,000.

EDITORIAL COMMENT AND NOTES FOR THE MONTH

THERE have been numerous and able protests from writers and scientific associations against the erection of the power house in Washington on the banks of the Potomac. These bodies and individuals are qualified by knowledge and experience, represent varied interests, have received honors of far greater merit than are conferred upon the majority of federal legislators, and are dealing with a subject of which they are thoroughly cognizant. Yet, despite this fact, the Congressional Records of February 14th and 25th display on their pages remarks and controversy by legislators which are evidently made in the sincerity of ignorance, in opposition to these able protests. What is the cause for this condition of affairs? In matters of life and death, the word of the physician and the surgeon is sought; in matters of law, that of the able jurist is desired; but in matters of art and of the word of the artist, there is no man so mean as to do him obeisance. And yet the question of art and of architecture is as vital as that of health and justice, as it is the permanent and conspicuous environment of both.

The legislator is supposed to represent his constituents, and the majority of his constituents are as ignorant of all appreciation of art as they are of medicine or law; but they know they are ignorant of the latter, because they get into immediate material difficulties if they attempt either, but treatment of artistic problems carries no penalty with it that an uneducated man recognizes. He therefore feels safe in making decisions without qualifications and belittling protests which he does not appreciate and which irritate him.

Artistic expression is varied and of many degrees and can be judged only by comparisons.

A protest against a disfigurement of the architectural scheme of Washington, of which the people are already proud, must be such as to convince the public, and then there will be no opposition of the legislators. That this conviction is already taking place is evidenced by the resolutions of the American Institute of Consulting Engineers and the National Association of Builders Exchanges, and many others who are in no way affiliated with artistic professions. It is possible that this very discussion, which is so well presented in the "Appeal to the Enlightened Sentiment of the People of the United States," will be a very definite factor in the education of the people on these matters, which education cannot be too widespread or undertaken by too many different interests.

IN the annual report of the American Academy in Rome which has just been received it is gratifying to read that the European war has not had such dire effects on the administration of the school as was generally expected at the beginning of the conflict. The enrolment of students has not been lessened and activities have been carried on without any serious curtailment save for such inconveniences as the closing of certain districts in northern Italy to students and travelers and the need for prudence in sketching in other parts of the country. Considering the fact that the Academy also embarked upon the occupancy of its new quarters on the Janiculum during this perilous period, it is indeed a commendable record of achievement that is presented.

SIR THOMAS JACKSON'S admirable volumes upon Gothic Architecture* are of very great value if only for the charm and beauty of his pencil drawings, which are both skilful and appreciative of the qualities of the subjects, and have the delicate, affectionate touch of the man who loves his art, and also because his book is a very compendium of Gothic work throughout Europe in its text and illustrations, and his sensitiveness in regard to the phases of Gothic Art is refreshingly free from dogmatism.

Naturally he defines the term "Gothic" and considers that it is an art which grows from structure without conventional bonds, is as free in its expression as it is sane in its methods, and is based upon the intention of good building with true economy developed and embellished by æsthetic detail. It therefore has amazing variety and possibility of protean changes, controlled by the desires stated. When its structural qualities approach perfection, as at Amiens, there is always the danger of the coldness of a precision, which is absent in the less skilled and tentative intimate efforts of a less perfect knowledge. It developed from the well intentioned incompetence of the Romanesque into an art which became as nearly scientific as the times permitted in France, and Sir Thomas Jackson thoroughly comprehends that so sensitive a means of expression, unhampered by canons of form such as the orders of architecture, would at once reflect the character of its builders.

He acknowledges that the French are devoted to precision to the ultimate point in their work, while the English make constant compromises; that the French reason out their achievement, while the English cling to traditions, and that therefore French Gothic develops in sequence logically and its phases are definite and progressive, while in England the Romanesque wall lingers between the buttresses, and the immediate precedents dovetail into the new experiment. Also, he feels that homely imperfections create a certain charm in themselves. It is natural that Mr. Moore's book on the same subject does not content him, but he treats it with the respect it deserves and without acerbity, and is himself so far from being a doctrinaire that he is absolutely sympathetic by nature with the Gothic styles.

*"Gothic Architecture in France, England, and Italy," by Sir Thomas Graham Jackson, Bart., R.A., F.S.A. The University of Chicago Press. Crown, 4to. Two volumes. $14.50.